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TENTH ANNUAL REPORT

OF THE

DAIRY AND FOOD COMMISSIONER

OF THE

STATE OF MICHIGAN

YEAR ENDING JUNE 30, 1903

BY AUTHORITY

LANSING, MICH.
ROBERT SMITH PRINTING CO., STATE PRINTERS AND BINDERS
1904

MICHIGAN DAIRY AND FOOD DEPARTMENT.

A. W. SMITH	Commissioner
PERLEY C. HEALD	Deputy Commissioner
R. E. DOOLITTLE	State Analyst
L. H. VAN WORMER	Assistant State Analyst
JOHN R. BENNETT	Inspector
FRANK H. GREGORY	Inspector
JOHN McMAHON	Inspector
GILMAN M. DAME	Inspector
JAMES R. McCALL	Inspector
RUDOLPH J. HAAS	Inspector
W. Z. HUTCHINSON	Apiary Inspector

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LETTER OF TRANSMITTAL.

OFFICE OF DAIRY AND FOOD COMMISSIONER,
Lansing, Michigan, June 30, 1903.

TO HIS EXCELLENCY, AARON T. BLISS, *Governor of Michigan:*

SIR—In compliance with Section nine of Act No. 211 of the Public Acts of 1893, as amended, I have the honor to submit herewith the annual report of this Department for the year ending June 30, 1903.

Very respectfully,
A. W. SMITH,
Dairy and Food Commissioner.

TENTH ANNUAL REPORT

OF THE

STATE DAIRY AND FOOD COMMISSIONER.

In this, the tenth annual report of the Dairy and Food Commissioner of the State of Michigan, will be found a resume of the work accomplished by the Department during the fiscal year, ending June 30, 1903.

This summary contains, among other things, the number of stores inspected, the number of specimens of food articles collected throughout the State by the Department's inspectors and sent to the laboratory for analysis, and the State Analyst's report on each one found to be adulterated; it also shows the number of complaints entered during the year against persons for violation of the law relative to the adulteration of food, and the number of convictions had, together with the amount of fines imposed therefor.

For the purpose of convenience, and to expedite the work of the Department, the State is divided into inspecting districts, each of five inspectors having a certain number of counties to work in, and each being in a measure held accountable to the Commissioner for the condition of food products offered for sale in the stores throughout his district. The sixth inspector, re-inforced by help from the Department, when it can be spared, is continuously employed in the inspection of the dairies, creameries and cheese factories throughout the State. Herein will be found the individual reports of each inspector in the employ of the Department for the entire year.

About the close of the first half of the fiscal year, just ended, a change was made in the Commissioner's office; Hon. W. B. Snow of Kalamazoo county retiring, and the present commissioner succeeding him. From the date of his assuming charge of the office up to the present time, a period of a little over five months, the work has so shaped itself as to make an exceedingly busy period for the head of the Department. During that short time, final judgment, affecting Dairy and Food Laws, has been passed in two important cases by the court of last resort within the State. The decisions of the supreme court, as a rule, bring with them disarrangement of usages and precedents, and it becomes necessary after the rendering of the opinions in these cases to formulate new rulings to take the place of those rendered null and void or impracticable. In view of this fact, the commissioner will at this time refrain from making extended recommendation relative to the statutes in force, or the enactment of others, which might be deemed necessary to bring about a more perfect system of food inspection. The laws as we find them will be as rigidly and as intelligently enforced as it is within our power to enforce them, having always in mind the rights of all the parties concerned, with a firm determination to keep the department upon a basis where the manufacturers, the jobbers, together with the retailers and consumers will recieve alike, exact justice, and as courteous treatment as it is within our power to extend.

OLEOMARGARINE.

For several years past, there has been more or less legislation regulating the manufacture and sale within the State of oleomargarine, and in no other instance has the department met with such stubborn and united resistance in the efforts made to enforce pure food legislation as it has encountered in endeavoring to bring about an enforcement of oleomorgarine laws so-called.

Beginning in December, 1898, the supreme court has, at various times been called upon to review and pass judgment on six different cases affecting different acts, or different provisions of the same act regulating the manufacture and sale of this article of food. The legislature of 1901, passed what is known as Act No. 22, Public Acts of 1901. entitled, "An act to prevent deception in the manufacture and sale of Imitation Butter."

Section 1 of the act, prohibits the sale of any product not produced from unadulterated milk or cream from the same, which shall be in imitation of yellow butter; and permits the sale of oleomargarine in a separate and distinct form, and in such manner as will convince the consumer of its real character, free from coloration or ingredient that causes it to look like butter. Manufacturers of the product ignored the law, and retailers throughout the State very generally disregarded it also, and were offering for sale and selling an article in imitation of yellow butter, the color being produced by artificial coloring matter. Early in the year just closed, the Department succeeded in procuring a conviction in one of the circuit courts of the State which was later affirmed by the supreme court, in which case the offense charged was selling oleomargarine containing artificial coloring matter. This was the case of the People vs. Phillips appealed from Kalamazoo county, and was similar in every respect to the case of the People vs. Rotter, decided some weeks earlier, and its outcome in the supreme court was the same. With the record of both these cases upholding the law as far as the use of artificial color was concerned, it was then found that oleomargarine was being produced and sold, containing no artificial coloring matter, but having a yellow tint, causing it to look like butter. this effect being brought about by cottonseed oil used in its manufacture. To set this question at rest, steps were immediately taken to secure the opinion of the supreme court on the question of whether or not under the act, the sale of yellow oleomargarine, the color being produced from one of the ingredients used in its manufacture could be prohibited.

In the case of Bennett vs. Carr, handed down on July 14th (before going to press) the court holds in effect that the natural color given by necessary and recognized ingredients cannot be prohibited. Act No. 147, Public Acts of 1889, entitled "An act in relation to the manufacture and sale of oleomargarine or imitation butter," is in no way affected by any of these opinions. This act provides for the proper labeling of oleomargarine, and the size of the letters to be used in branding the same when sold or offered for sale in this State; it provides for verbal notice to be given the purchaser at time of sale, and clearly sets forth certain requirements to be observed by proprietors of hotels, restaurants, eating saloons, boarding houses, or other places where oleomargarine is sold or furnished. The Department is well aware of the tendency to evade this law, and believing that the purchaser should be in all cases fully informed as to the true character of the article he buys. no effort will be spared in the future to bring about a strict compliance with this act. Prompt and vigorous prosecutions will be instituted in each and every case where necessary to secure this end.

LEMON EXTRACT.

In the case of the People vs. Jennings, the supreme court held that the United States Pharmacopoeia formula is the proper standard to govern the manufacture of lemon extract; and in holding that such should be the standard, the court says: "If the lemon extract contains all the ingredients. and in quantities such as prescribed by the pharmacopoeia, which are adapted to use as food, and that nothing was eliminated except such ingredients as could be dispensed with without injury to the product as a food product, there is no violation of the statute."

Each brand of lemon extract must stand by itself, and if manufactured in compliance with said decision of the supreme court is lawful.

Coloring matter may be used in lemon extract manufactured in compliance with the Pure Food Laws of this State as interpreted by the supreme court, providing such coloring matter is not injurious or deleterious to health. The supreme court having reversed the judgment of the lower court and a new trial having been ordered, the Department took the necessary measures to bring about a speedy re-trial of the case for the purpose of settling the disputed fact as to whether the lemon extract manufactured by Mr. Jennings is equal to an extract manufactured in accordance with the United States Pharmacopoeia, which is sustained as a standard by the supreme court, in its opinion in this case. The case was set for re-trial at Muskegon on the 12th of May; on the 11th, Mr. Jennings appeared in court, withdrew his plea of not guilty, and entered a plea of guilty. The court sentenced him to pay a fine of $100. The contention of the Department in this case, that the United States Pharmacopoeia was the standard for lemon extract is fully sustained by the supreme court.

NEW LEGISLATION.

The necessity of additional legislation in the case of pure food having been felt by the Department for some time past, steps were taken during the last session of the legislature to secure the passage of several bills governing the sale of food products in this State. While regretting that the so-called dairy bill failed in passage, which had it become a law, would have been of inestimable benefit to the milk, butter and cheese interests of the State, we are pleased to state that several of the bills in which the Department was interested were enacted into laws.

Act No. 243 defines renovated butter, prescribes the manner in which the same shall be marked or labeled, and the conditions under which it may be sold. The passage of this law was made necessary for two reasons:

First, That our statute, governing the labeling and sale of this article might conform more closely with a federal law recently passed, prescribing the manner in which this product should be sold, and

Second, Several evasions in labeling had sprung up under the old method of labeling it "Process Butter," by which it was made to appear that the purchaser was getting an article of better or greater value than it really was. Deception of this nature, we believe, will be made impossible under the requirements of the new law.

Acts No. 123 and 208, provide for the manner in which corn syrup and buckwheat flour compound shall be labeled, and the conditions under which the same may be sold in this State. Of greater import than any of the others, however, is that part of Act No. 230, which provides for the seizure and condemnation under certain restrictions of adulterated goods offered for sale in this State. It has been the policy of this department in the past to relieve from prosecution as far as practicable, retail dealers acting in good faith in the purchase of goods, and exercising due caution and ordinary business prudence in ascertaining if the goods which they purchased and afterwards offered for sale were free from adulteration. When goods purchased by retailers under these conditions have proved upon analysis to have been adulterated, the mode of procedure has been to institute prosecutions against the manufacturers when living in the State, and when living and conducting their business outside of the State, and beyond the reach of legal service, proceedings have been instituted against the agent or representative. The authority for holding an agent responsible under these conditions was disputed, and in the case of the People vs. Skillman, 89 N. W. 330, the question was finally passed on by our supreme court; and again in the case of the People vs. John W. Morse, opinion filed June 3, 1902, in both opinions it being held that an agent taking an order for pure goods, the order afterwards being filled by his employer with imitation goods, was not guilty of violating the terms of the statute. Manufacturers within the State were thus placed at a very great disadvantage, for while they could be reached and prosecuted for violations in our State courts, their competitors outside the State as a rule could not, and our home manufacturers placing goods on the market were in a measure forced to compete with producers without the State shipping low grade goods into Michigan who were beyond the reach of criminal process. This left the Department no alternative but to proceed against the retailers, who while made responsible under the statute for the sale of the impure article, were perhaps in most cases innocent of any criminal intent or guilty knowledge of the adulteration. To remedy this injustice and unfair discrimination against Michigan manufacturers, a bill was caused to be introduced, and it became a law, empowering the Dairy and Food Commissioner, his deputy or duly appointed representative to seize and hold goods suspected of adulteration, to send samples of the same to the State Analyst for analysis, and if upon such analysis it should be found that the goods are impure or below the required standard in quality, the Commissioner is authorized to take measures as in the statute provided to bring about the condemnation and disposal of such goods for any purpose other than for food. We believe that under a judicious enforcement of this law, unscrupulous manufacturers and dealers will find it impossible to unload their adulterated and low grade food products on the Michigan market.

GENERAL INSPECTION AND ITS RESULTS.

During the twelve months, ending June 30th, the Department's inspectors have visited 2,694 dealers in food products within the State, and inspected the stock kept for sale by each of them. Besides this number of regular inspections, the usual number of visits were made in cases calling for special work and reports on the same. Each and every inspection made is reported fully and in detail to the Department, and a complete record kept therein of the condition in which the stock was found on date of visit. Besides the number of stores visited and stocks inspected as above mentioned, 1,053 inspections have been made of creameries, cheese factories and dairies throughout the State. As a result of this work, and reports on same, the Department has a record showing in detail the number of creameries, conditions of cows, quantity of milk or cream, etc., at each particular place inspected.

Aside from the inspections made as above mentioned, the inspector of apiaries visited seventeen counties, examined seventy-nine apiaries, including 2,404 colonies, 193 of which were found to be diseased, 40 of which were treated and the necessary and proper instructions given owners for the treatment of the remainder. During the year, 754 official samples have been sent by the inspectors to the Department's laboratory, and as a result of the analyses, 337 were found to be pure, and 417 adulterated. A detailed report on the analysis of each of the adulterated samples will be found in the official report of the State Analyst, published in full herein.

INSPECTIONS.

REPORTS ON GENERAL INSPECTION.

HON. A. W. SMITH, *State Dairy and Food Commissioner:*

SIR—I herewith submit my report for the fiscal year, ending June 30, 1903:

My inspection district consists of the following counties, viz: Oceana, Muskegon, Kent, Ottawa, Ionia, Allegan, Barry, Eaton, Van Buren, Kalamazoo, Calhoun, Berrien, Cass, St. Joseph, Branch and Hillsdale. I have inspected over 500 grocery stocks, and could have doubled the number, had it not been for the amount of special work placed upon me by the Department, together with the large amount of court duties. But I am satisfied I have accomplished as much in the interest of the State as though my time had been entirely devoted to store inspections. Several years ago, it was quite necessary that every store should be inspected, but as stocks in general are today with few adulterations, it is not so essential. When an adulterated article is found, a more thorough inspection in that locality becomes necessary. Inspectors soon learn how to follow up the sales of adulterated goods and who the real guilty parties are. Many complaints in my opinion should have been made during the past year, that were not, for the reason that the wilfully guilty parties could not be reached; fortunately for them they do not reside in this State. I am in hopes that the act known as the "Seizure Clause Act," passed by the last legislature, when in force, will have a good effect in regulating the sales of goods from other states. No manufacturer or jobber will have any desire to ship goods into Michigan and have them seized and destroyed for not being in compliance with our laws.

I regret that our legislature does not more fully realize what the work of our Department has been, and appreciate the benefit it has been to the people of the State, and pass legislation when asked by the Department, that a better enforcement might be had and many deceptive violations obviated. With my many years in the Department, I can state from a general knowledge, that there is no State in the Union where the food laws are being so well enforced as in Michigan, and where the Food Department and the management of its affairs are more highly respected or spoken of. I believe I can safely say there is not a jobber or retail dealer in Michigan but what is far better off financially and in trade interests than they would have been had there been no such law, and that under no consideration would they desire its repeal. Keep politics out of the Department and retain those who are competent and experienced in the work, and Michigan need have no fear as to the success of her Dairy and Food Department.

Very respectfully,
JOHN R. BENNETT,
Inspector.

Muskegon, Mich., July 1, 1903.

Hon. A. W. Smith, *Dairy and Food Commissioner:*

Sir—I herewith submit my report of the work performed by me, as Inspector of Dairies during the fiscal year beginning July 1, 1902, and ending June 30, 1903:

During that time I have visited the following places: Alamo, Albion, Allegan, Adrian, Ann Arbor, Alma, Addison, Bishop, Brunswick, Brandt, Bradley, Buchanan, Breckenridge, Brown City, Bad Axe, Bloomingdale, Base Line, Berlamont. Birdsall, Benton Harbor, Bradley, Battle Creek, Charlotte, Cassopolis, Centreville, Chicora, Carsonville, Caro, Climax, Clinton, Clayton, Canandaigua, Cadmus, Chelsea, Camden, Chesterfield, Capac, Columbiaville, Cottsville, Dorr, Dexter, Dearborn, Decatur, Davison, Detroit, Elsie, Elba, Freemont, Freeport, Fairfield, Fruitridge, Farmington, Franklin, Flint, Glendale. Galesburg, Grass Lake, Grape, Gibsonville, Goodrich, Grand Blanc, Hamilton, Holland, Holloway, Hilliards, Hopkins Station. Hopkinsburg, Hudson, Hesperia, Howell, Hamburg, Hartford, Holly, Henderson, Ithaca, Inkster, Ida, Jamestown, Joppa, Jackson, Jasper, Kalamazoo, Kent City, Lake Odessa, Leslie, Litchfield, Lulu, Lawndale, La Salle, Lawrence, Lapeer, Mendon, Muskegon, Marshall, Middleville, Mulliken, Marlette, Manchester, Mason, Moline, Martin, Monterey, Medina, Monroe, Milford, Mead, Mount Clemens, Millington, Newaygo, Nashville, North Branch, Niles, Northville, New Baltimore, New Hudson, Novi, New Haven, Otsego, Oshtemo, Oxford, Orville, Plymouth, Parma, Palmyra, Petersburg, Pittsford, Pontiac, Port Huron, Reeman, Ridgeway, Rollin, Redford, Reading, Royal Oak, Ray, Richmond, Ross, Sparta, Saugatuck, Sebewaing, Schoolcraft, South Haven, Saint Joseph, Sank Creek, Seneca Center, Sheldon, Sand Hill, Stanton, South Lyon, Saint Clair, Saginaw, Tipton, Traverse City, Three Oaks, Tecumseh, Three Rivers, Unionville, Vicksburg, Vermontville, Vassar, Walled Lake, Wixom, Waldenburg, Woodland, Wayland, Weston, Wolf Creek, Ypsilanti, Yale.

I have personally and carefully inspected 87 creameries, 54 cheese factories, 15 skimming stations, 11 milk stations, 3 condensing factories and 883 dairies with their 9,594 cows. The milk from 770 dairies was tested for butter fat.

The inspection of butter and cheese factories, skimming and milk stations had to do principally with the sanitary condition of the buildings, utensils and surroundings, and the condition and quality of the milk received into them. These factories, with a few exceptions, are in a fine sanitary condition and are fully equipped with all modern appliances for making butter and cheese. They are managed by men well qualified for the position they occupy, and they are endeavoring to produce a high grade of butter and cheese, and the prices they are receiving for the product in all the markets is evidence that they are succeeding.

There are a few factories that show a negligent management, the buildings and utensils being in a dirty, unsanitary condition. When the attention of the manager was called to the condition of his factory, he invariably promised to clean up and keep clean. On my second visit to some of these factories, I found the pledge was being very well kept.

I find that many of the managers of cheese factories who formerly bought their milk by the quantity, regardless of quality, are now using a Babcock tester. Although not buying by the butter-fat test, they are equipped so that they may know the quality of each patron's milk, and are refusing to receive all milk that does not come up to the standard (3 per cent butter-fat). I find that the milk that is being delivered at these factories has improved in quality. If the management of all factories would put in a Babcock tester and use it there would be fewer complaints regarding watering and skimming by the patrons.

The dairies of the State are generally in a good healthy condition. This condition should be largely credited to the dairymen, who are providing stables with improved systems of ventilation, light and drainage, and are sparing no pains or expense to secure the health and comfort of their herds, recognizing the fact that the first problem in dairy progress is the cow and her care.

The creameries and cheese factories, equipped as they are with every appliance for handling milk and cream, controls, to a certain extent, the quality of the finished product, but we must not lose sight of the fact that the cow is the source of supply of the raw material and the dairymen are alone responsible for the condition of that supply when delivered at the factory. Some of the dairymen are careless, regarding the care of the milk until delivered, and do not consider the fact that nothing can be done afterwards that will remedy the neglect of the first hour.

The dairymen also recognize the fact that the greatest problem confronting them today, is the cost of production. Creameries and cheese factories are paying the highest price possible for the milk and be able to place the finished product on the market at present prices.

The price of milk for the city retail trade is generally well established, and an advance would be almost impossible.

It is evident that, for the dairyman to increase his profits, he must reduce the cost of milk production, and many are endeavoring to accomplish it by building silos and root cellars and raising succulent foods for their herds. Many are improving their dairies by crossing only with herds of the highest dairy reputation, thus securing cows that produce a larger flow and a higher grade of milk. These are the dairymen, that, I believe, will succeed in bringing the cost of milk production down to a minimum.

I find a class of dairymen who are careless with their stables, cows and milk at the time of milking. Dust and dirt are allowed to accumulate in the stables. No particular attention is given to light or ventilation. The cows are covered with dust when they come into the stables. A slap or two is given the udder and the milking begins. The cans, into which the milk is strained, are allowed to stand in the stable until the milking is completed. No particular attention is given the milk before sending it to the factory or retailer. Such milk is unfit for use and its sale should be prohibited.

The quality of the milk supply of the cities is certainly improving. The dairymen and retailers are taking pride in furnishing their customers with a pure, rich quality of milk, and their wagons are invariably neat, clean and nicely arranged, which condition creates a favorable impression as to the quality of milk which they are handling.

The dairymen, farmers and factorymen of this State, have in the past expended, and are still expending, large sums of money, to improve the herds and provide buildings and appliances for producing a finished dairy product of the highest grade attainable.

Michigan, with her natural advantages of soil and water, and the rapid growth of her dairying industry, is destined to become one of the leading dairy states of the Union. This, one of the State's greatest industries has interests to protect that are certainly entitled to a more favorable consideration by our legislators than has been given it in the past.

JAMES R. McCALL.
Lansing, Michigan, June 30, 1903. *Dairy Inspector.*

HON. A. W. SMITH, *State Dairy and Food Commissioner, Lansing Mich.:*

SIR—I herewith submit report of work performed by me as inspector during the fiscal year ending June 30, 1903. My field of work is confined to the following counties: Bay, Saginaw, Midland, Arenac, Iosco, Alcona, Alpena, Presque Isle, Huron, Tuscola, Sanilac, Lapeer, Genesee, Clinton, Shiawassee, Livingston, Oakland, St. Clair and Macomb.

In the past year, I am frank to say that there has been a strict observance of the law pertaining to process butter, and governing the sale thereof, so far as pertains to labeling of original packages; and with the new conditions under the new law coming into effect, making necessary the labeling as process or renovated butter, each package, roll or parcel sold, I believe the ground will be fully covered and consumers of this article of food will be more fully apprised of what they buy.

In the past year I have given considerable attention to bakeries and fruit stores in smaller cities, where I have found used at soda fountains, syrups of the different flavors manufactured from other than the fruit, berry or bean as it may be, and as the law requires. Ether preparations of this kind are used in but few places and mostly so from real lack of knowledge as to their being deleterious to health; and in every case have been discarded when the inferiority has been made known to the dealer, and supplanted by pure fruit juices or syrups made from the same.

While there have been several prosecutions for violations of the law governing the sale of imitation fruit jellies, manufacturers and jobbers out of the State continue to send their colored jelly into this market, and as a means of promoting their sales, and mystifying the dealer or baker, label the packages improperly, charging as I have found in most cases, 25 per cent more in price than is the market figure for "imitation jelly" such as it is, pure and simple, with added color. While Michigan manufacturers of this product, I believe now quite generally observe the law with reference to the sale of jellies I am pleased to state that the Department force is making every endeavor to drive from the Michigan market the "spurious article," and place Michigan manufacturers upon a deserved footing of equality with outside manufacturers in so far as selling a product for what it really is.

The large amount of research performed by Mr. Doolittle the Department chemist in the last year is of much value to our Department, and is of material assistance to inspectors in their work, also vastly important as Michigan's share toward the dictionary of anticipated national pure food legislation.

The pleasant relations at present existing between the Department force and Michigans tradesmen not only is conducive to the good of the

Dairy and Food Department but merchants and manufacturers as well, although at times it is necessary to settle a disputed point in the courts. I feel satisfied in saying that the business interests of the territory I have visited in the last year have been given satisfactory and prompt service. The official force of the Department at Lansing, having met every question with decision and promptness, insisting upon the rigid enforcement of food laws as existing, yet conservatively digesting matters and conditions as they appear from day to day.

In the past year I have visited 456 stores, condemned 5,983 packages 5,926 pounds, 19 barrels and 25 tubs of the different food products as found to be adulterated or not in compliance with the Dairy and Food laws. I have commenced eight cases and had seven convictions for different violations. Two cases have been nolle prossed and there are five cases pending, one of which is in the supreme court.

Very respectfully.
FRANK H. GREGORY.
Lansing, Michigan, July 30, 1903. *Inspector.*

HON. A. W. SMITH, *State Dairy and Food Commissioner, Lansing Mich.:*

SIR—Herewith is submitted report of work performed by me in the capacity of Food Inspector during the fiscal year ending June 30, 1903:

The territory assigned me comprises the counties of Wayne, Monroe, Washtenaw, Hillsdale, Jackson and Lenawee; and in these counties I inspected seven hundred sixty-two (762) food stocks. The cities and villages visited in the discharge of my official duties are as follows: Detroit, Adrian, Dundee, Milan, Monroe, Ann Arbor, Hillsdale, Jackson, Hudson, Clayton, Blissfield, Delray and Stoney Creek.

During the year I collected one hundred twelve (112) official samples of oleomargarine, jellies, spices, flavoring extracts, syrups and vinegar, and forwarded the same to Lansing for analysis.

It is with a feeling of genuine satisfaction that I find myself able to report a general disposition on the part of both wholesale and retail food merchants to comply with the provisions of the Pure Food laws; in fact, many of the merchants referred to frankly admit their indebtedness to the Michigan Dairy and Food Department, since the latter, by enforcing the law regulating the buying and selling of food products, have eliminated, in an appreciable measure, the element of deception and criminal imposition fostered and indulged in by certain unscrupulous manufacturers; said imposition having formerly been a constant and uncompromising menace to the reputation of the honest dealer, not infrequently resulting in the loss to the latter of friends as well as profits. Realizing as he now does the genuine protection accorded by the State Food Department to his business interests and personal reputation for honest trading the dealer in food products, wholesaler and retailer, is quick to proffer assistance to the inspector, and cheerfully facilitates, so far as he is able, the enforcement of the law which protects the general consumer, upon whose complete satisfaction his own material success depends.

My own experience as a food inspector has convinced me that the merchants, generally speaking, have no desire to evade the law regulating their trade, but regret my inability to say as much for certain manufacturers, who, recognizing the criminality of foisting adulterated and fraudulent goods upon an unsuspecting and complacent public have resorted to the expedient of substituting exceedingly low grade products that fall far short of the standard of excellence desired by the department. This is particularly noticeable in some of the jellies sold to bakers and confectioners, and which are used in the manufacture of pastries, etc. I have been pleased to observe, however, that even this practice is gradually being abandoned; and it is my personal opinion that the continued vigilance of the Department's representatives, as manifested in their rigid inspections and fearless prosecution of violators of the Pure Food laws, will, in a comparatively short time, succeed in establishing such conditions as shall guarantee the absolute purity and wholesomeness of every article of food placed upon our tables.

Another matter which, it seems to me, should be referred to in this report, is the extraordinary indifference to the ordinary requirements of hygienic and sanitary laws displayed by some owners of retail stores. and especially by some of the bakers whose establishments I have visited. Cleanliness is regarded by most people as being next to Godliness, but in the course of my inspection of bakeries I found a number of persons who, seemingly at least, regarded cleanliness as next to nothing at all.

There can be no disputing the relation between cleanliness and health; nor between filth and disease; and as the aim of the Food Department is the promotion and maintaining of the health of the State's inhabitants it seems to be my duty to suggest the advisability of procuring such legislation as would authorize the Department to deal officially with the slovenly persons whose open disregard for the common observances of cleanly people who purchase their wares is no less a menace to the health and general welfare of the community than is the gross and deliberate adulteration of food. The Department has succeeded in eliminating fraud; may it not be empowered to eliminate filth also?

Respectfully submitted,
JOHN McMAHON.
Inspector.

HON. A. W. SMITH, *Dairy and Food Commissioner:*

SIR—I herewith submit annual report of my inspection work from July 1, 1902, to June 30, 1903. My work has been confined to the northern portion of the State, comprising the counties of Keweenaw, Houghton, Ontonagon, Baraga, Marquette, Iron and Dickinson. In these counties, and in the following named towns and cities, I have inspected some four hundred stores and stocks where food products were offered for sale; viz.: Allouez, Wolverine Mine, Kearsage, Calumet, Laurium, Red Jacket, Opechee, Lake Linden, Grover. Dollar Bay, Hancock, Houghton, Franklin, Arcadian Mine, Quincy, Atlantic Mine, Champion Mine, Trimountain, Redridge, Greenland, Ontonagon, Mass Mine, Baraga, L'Anse, Marquette, Negaunee, Ishpeming, Iron Mountain, Norway. Crystal Falls, Pori, Chassell, Hurontown, Ripley, Huron Bay and Portage Entry. I am pleased to state that very few adulterated goods were found, and I have visited many of these towns a second time and always found them in splendid shape. The inspection work has had a good effect upon dealers in many ways. They seem to be very careful in the purchase of their stock, and I find that all the dealers are well pleased with the Dairy and Food laws of the State, and I believe the system under which the Department's inspectors are now working is quite perfect, and fully meets the demand for complete record of the Department's work for each day and year.

Thanking you for the many courtesies of the past year, I am,

Respectfully yours,
RUDOLPH J. HAAS,
Inspector.

Lansing, Mich., June 30, 1903.

HON. A. W. SMITH, *Dairy and Food Commissioner:*

SIR—I herewith submit my annual report for the fiscal year ending June 30, 1903. During this time I have visited 114 cities and towns, principally in the northern part of lower Michigan, as follows: Alba, Atwood, Antrim, Alden, Alanson, Alma, Acme, Big Rapids, Baldwin, Boon, Beulah, Benzonia, Bellaire, Boyne Falls, Blanchard, Brutus, Bates, Cheboygan, Charlevoix, Clare, Copemish, Central Lake, Chippewa, Crawford, Cedar City, Detroit, Eastport, Elk Rapids, Elmira, Edmore, Evart, Ellsworth, East Jordan, East Lake, Empire, Frankfort, Fife Lake, Freemont, Farwell, Frederic, Gaylord, Grayling, Grand Rapids, Glen Haven, Gills Pier, Harrietta, Honor, Howard City, Harrison, Hesperia, Homestead, Harbor Springs, Hitchcock, Indian River, Interlochen, Kewadin, Kalkaska, Kingsley, Luther, Ludington, Lake City, Leroy, Lucas, Leland, Levering, Lake Ann, Maple City, Manistee, Mesick, Manton, Mancelona, Mt Pleasant, Mecosta, Millbrook, Mackinaw City, Mayfield, McBain, Northport, Newaygo, Oak Hill, Omena, Petoskey, Paris, Roscommon, Reed City, Rodney, Remus, Rapid City, Solon, Springvale, Sherman, Scottville, South Boardman, Sutton's Bay, Summit City, Sears, South Arm, Shepherd, Traverse City, Thompsonville, Torch Lake, Tustin, Pellston, Upper Big Rapids, Vogel Center, Vanderbilt, Wolverine, Walton, White Cloud, Willcox, West Millbrook, Williamsburg and Yuma.

During the past year I have taken 100 official samples for analysis of various food products offered for sale. Of this number 76 were adulterated and 24 were pure. Samples were taken only when adulteration was suspected in some form not readily disclosed by the simple test used by an inspector in his field work.

I have condemned the following goods: Artificial extracts, 92 bottles; baking powder, 173 pounds; cocoa, 504 packages; chocolates, 1.287 packages; coffee, 215 pounds; cream of tartar, 7 pounds; canned goods, 15 cans; extracts, 5,799 bottles; glucose mixture, 27 gallons; jellies, 280 tumblers and 930 pounds bulk goods; shredded cocoanut, 16 pounds; spices, 277 packages; vinegar, 1,045 gallons.

The Department's experience during the past year with certain manufactured products prompts me to recommend the enactment of a legal standard of all manufactured products intended for food purposes wherever it is possible.

As soon as the present law establishing a standard for pepper became operative, grinders of pepper not only in the State of Michigan, but in other states who grind for our market, immediately put out a product that complied with the law. The result has been the betterment of commercial pepper to the extent of at least fifty per cent, and if a similar law was enacted establishing a standard for other ground spices, and in fact all products either mixed or simple, it would be beneficial to the consumers and place manufacturers on an equal footing.

Very frequently there is found upon our markets mixtures or compounds that are not properly labeled, or that do not conform to the law. After these goods have been extensively advertised, the various jobbers throughout the State place them in stock and make a special effort through their salesmen to place these goods on the retail market and as found by the inspector, they are often mislabeled and are condemned, causing a good deal of inconvenience to the jobbers and financial loss to the manufacturers. These mistakes could always be avoided if the Department was consulted before these goods were placed upon our market, and as long as the present conditions exist, namely, the different states having different laws regulating the labeling of goods, inconvenience to manufacturers can only be avoided by a thorough knowledge of our Food Laws or the submitting of samples for a ruling.

Strange as it may seem, during the past year I have found three wholesale houses in this State whose managers admitted to me that they had never seen a copy of the Michigan Food Laws. The jobbers and retailers throughout the State would be saved a good deal of inconvenience if they would carefully read the Dairy and Food Bulletins published monthly by this Department, as it will keep them perfectly informed of all adulterated articles found by the Department's inspectors.

Having in mind only the desire to lay before you the actual conditions under which I find food products offered for sale and knowing that cleanliness and proper sanitary regulations are necessary for the production of healthful food, I respectfully call your attention to the following: During the past year I have visited throughout the State a large number if bakeries. and while some of them are clean and sanitary, the conditions of a large percentage of them are such as to call forth unfavorable comment as to cleanliness and proper ventilation. In cities of 10,000 and upwards, I find by careful inquiry that over 50 per cent of the bread, cakes, pies and other sweet baked goods consumed, are produced by the various bakeries. I recommend that this be given the necessary legislative attention to correct the above mentioned conditions.

The general condition of stocks throughout the State shows a noticeable improvement over the preceding year, and as the object of the Department becomes better understood, more willingness is shown by dealers to carefully follow instructions and comply with our laws.

Respectfully submitted,

G. M. DAME.

Inspector.

Lansing, Mich., June 30, 1903.

To the Honorable Dairy and Food Commissioner:

SIR—I hereby submit my report for the past year as State Inspector of Apiaries. My appointment came too late last season for anything to be done in the line of treating diseased colonies. The most that could be done was to examine colonies, point out the disease when found, give instructions for treatment when the weather should become suitable in the spring, and destroy such colonies as were too badly diseased to pass the winter. Ten colonies were burned. I have visited apiaries in the following counties: Gratiot. Tuscola, Saginaw, Kent, Wayne, Isabella, Shiawassee, Genesee, Hillsdale, Tuscola, Lenawee, Cass, Calhoun, Clare, Antrim, Ingham and Emmet. In all I have visited 79 apiaries, finding foul brood in 27 of the apiaries visited. In all I have examined 2,404 colonies, finding 193 diseased colonies, 40 of them being treated, and the others have been, or will be, treated by their owners, according to the instructions given.

Bee-keeping specialists are usually too well informed to need my services in their own apiaries. The most of them are capable of recognizing and treating the disease. The greatest need of an Inspector is among the bee-keepers with a few neglected colonies in the neighborhood of enterprising bee-keepers who wish to rid their neighborhood of the disease, but are hindered by the ignorance and apathy of these bee-keeping neighbors.

The northern part of the State is practically free from the disease, but the southern part, having been stocked with bees for a longer term of years, with no attempt to hold the disease in check, is pretty fully "seeded down," and it will require years of patient, persistent work on the part of the inspector and enterprising bee-keepers to get the disease under control. The ignorance of the majority of ordinary bee-keepers, on the subject of foul brood, is one of the greatest obstacles in the way of its eradication. For this reason, the April Bulletin of the Dairy and Food Department contained a description of the disease, together with instructions for its treatment, also the law on the subject. Bee-keepers can do much good by distributing this bulletin among their bee-keeping neighbors. It can be obtained from the Department. or from the inspector.

There are so many bee-keepers, in the southern part of the State, now asking for my services, that I sometimes scarcely know where to go first, and it is evident that the appropriation will be exhausted long before the year is out, with many bee-keepers still unvisited.

Respectfully submitted,
W. Z. HUTCHINSON.
Apiary Inspector.

DAIRY INSPECTIONS.

DAIRY INSPECTIONS.

July Inspection.

At Bishop:

L. Hoefman—Number of cows, 6; condition, good; feed, pasture; stables, fair; ventilation, good; yard, fair; water, well.

T. Bockhouse—Number of cows, 5; condition, good; feed, pasture; stables, fair; fair ventilation; yard, fair; water, well.

G. Zoerink—Number of cows, 5; condition, good; feed, pasture; stables good; ventilation, good; yard, dry; water, well.

J. Trumbley—Number of cows, 5; condition, good; feed, pasture; stables, fair; ventilation, fair; yard, fair; water, well.

H. Osterhouse—Number of cows, 6; condition, good; feed, pasture; stables, fair; ventilation fair; yard, fair; water, well.

John Dobbin—Number of cows, 12; condition, good; feed. pasture; stables, good; ventilation, good; yard, good; water, well.

At Brunswick:

A. Rasmenson—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; ventilation, good; yard, dry; water, well.

P. DeMors—Number of cows, 8; condition, good; feed, pasture; stables. good; ventilation, good; yard, good and dry; water, well.

A. Morrison—Number of cows, 6; condition, good; feed, pasture; stables, fair; ventilation, fair; yard, dry; good drainage; water, well.

F. Matthews—Number of cows, 15; condition, good; feed, pasture; stables, good and clean; ventilation, good; yard, dry; good drainage; water, well.

H. Zerlout—Number of cows, 5; condition, good; feed, pasture; stables, fair; ventilation, fair; yard, dry; good drainage; water, well.

C. Nelson—Number of cows, 8; condition, good feed, pasture; stables, fairly good; ventilation, good; yard, dry; good drainage; water, well.

H. Moon—Number of cows, 7; condition. good; feed, pasture; stables, fair; ventilation, good; yard, dry; water, well.

At Fremont:

A. Vereus—Number of cows, 5; condition, good; feed, pasture; stables, fair; ventilation, good; yard, dry; water, well.

V. DeVilde—Number of cows, 6; condition, good; feed, pasture; stables, fair; ventilation fair; yard, fair; water, well.

G. VanBelt—Number of cows, 8; condition, good; feed, pasture; stables, good; ventilation, fair; yard, fair; water, spring.

E. McDonald—Number of cows, 8; condition, good; feed, pasture; stables, fair; ventilation fair; yard, fair; water, well.

B. Hobeke—Number of cows, 6; condition, good; feed, pasture; stables, fair; ventilation fair; yard, fair; water, well.

A. Laukent—Number of cows, 8; condition, good; feed, pasture; stables, fair; ventilation fair; yard, fair; water, well.

R. Layengall—Number of cows, 9; condition, fair; feed, pasture; stables, fair; ventilation, fair; yard, dry; water, spring.

J. Maat—Number of cows, 8; condition, good; feed, pasture; stables, fair; ventilation, fair; yard, fair; water, spring.

C. A. Pierson—Number of cows, 15; condition, good; feed, pasture; stables, good; ventilation, good; yard, dry; water, spring.

G. Shroven—Number of cows, 8; condition, good; feed, pasture; stables, fair; ventilation, fair; yard, dry; water, spring.

J. W. Johnson—Number of cows, 15; condition, good; feed, pasture; stables, good; ventilation, good; yard, dry; water, well.

J. Wentzell—Number of cows, 6; condition, good; feed, pasture; stables, fair; ventilation fair; yard, fair; water, well.

At Hesperia:

M. Ressegein—Number of cows, 7; condition, good; feed, pasture; stables, good; ventilation, fair; yard, good; water, well.

B. Boerma—Number of cows, 5; condition, good; feed, pasture; stables, good; ventilation, good; yard, good; water, well.

C. Fenny—Number of cows, 5; condition, good; feed, pasture; stables, good and clean; ventilation, good; yard, dry; water, well.

J. Lewis—Number of cows, 5; condition, good; feed, pasture; stables, fair; ventilation, good; yard, dry; water, well.

A. Stone—Number of cows, 6; condition, good; feed, pasture; stables, fair; ventilation fair; yard, fair; water, well.

H. Hunt—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; ventilation, fair; yard, dry and clean; water, well.

M. Donehue—Number of cows, 15; condition, good; feed, pasture; stables, fair; ventilation, fair; yard, dry and clean; water, well.

W. McCallum—Number of cows, 6; condition, good; feed, pasture; stables, good; ventilation, fair; yard, fair; water, well.

T. Baker—Number of cows, 7; condition, good; feed, pasture; stables, fairly good; ventilation, fair; yard, dry; fair drainage; water, well.

L. A. Atwater—Number of cows, 10; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry; fair drainage; water, well.

C. Button—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; good drainage; water, well.

E. Gregory—Number of cows, 8; condition, good; feed, pasture; stables, fairly good; good ventilation; yard, dry; fair drainage; water, well.

G. Barnum—Number of cows, 6; condition, good; feed, pasture; stables, fairly good; fair ventilation; yard, dry; fair drainage; water, well.

E. Buskirk—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; yard, dry; fair drainage; water, well and spring.

Wm. Gregory—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fairly dry; water, well.

J. L. Rumrey—Number of cows, 11; condition, good; feed, pasture; stables, fairly good; good ventilation; yard, dry; fair drainage; water, well.

K. O. Baird—Number of cows, 15; condition, good; feed, pasture; stables, good; good ventilation; yard, dry; fair drainage; water spring.

J. A. Baird—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; water, spring.

D. McBride—Number of cows, 10; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; water, well.

R. H. Baird—Number of cows, 14; condition, good; feed, pasture and meal; stable, good and clean; good ventilation; yard, dry; water, well and spring.

Wm. Linsley—Number of cows, 12; condition, good; feed, pasture and meal; stables, good and clean; good ventilation; yard, dry; water, well.

C. Braft—Number of cows, 13; condition, good; feed, pasture; stables, good; fair ventilation; yard, dry; fair drainage; water, well.

H. Wamhaft—Number of cows, 12; condition, good; feed, pasture; stables, good; fair ventilation; yard, dry; fair drainage; water, well.

C. B. Hoffmaster—Number of cows, 7; condition, good; feed, pasture; stables, good; fair ventilation; yard, dry; fair drainage; water, well and spring.

J. Thorn—Number of cows, 15; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry; good drainage; water, well and spring.

C. Knoblack—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; yard, dry; fair drainage; water, well.

F. Sebright—Number of cows, 11; condition, good; feed, pasture; stables, fairly good; fair ventilation; yard, fair; water, well.

H. Shaffer—Number of cows, 14; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

G. Knuth—Number of cows, 8; condition, good; feed, pasture; stables, good, with good ventilation; yard, dry; fair drainage; water, well.

A. Knuth—Number of cows, 9; condition, good; feed, pasture; stables, fair; fair ventilation; yard, dry; fair drainage; water, well.

Knuth and Calkins—Number of cows, 20; condition, good; feed, pasture; stables, good; good ventilation; yard, dry; fair drainage; water, well.

A. Bates—Number of cows, 10; condition, good; feed, pasture; stables, fairly good and clean; good ventilation; yard, dry; fair drainage; water, well.

D. C. Ingerson—Number of cows, 7; condition, good; feed, pasture; stables, good; good ventilation; yard, dry; good drainage; water, well and spring.

A. E. King—Number of cows, 6; condition, good; feed, pasture; stables, good; fair ventilation; yard, dry; water, well.

E. B. Wilcox—Number of cows, 6; condition, good; feed, pasture; stables, good; fair ventilation; yard, dry; water, well.

D. Hazen—Number of cows, 9; condition, good; feed, pasture; stables, good; fair ventilation; yard, dry; fair drainage; water, well.

F. Elenger—Number of cows, 7; condition, good; feed, pasture; stables, good; fair ventilation; yard, dry; good drainage; water, well.

Beal Bros.—Number of cows, 7; condition, good; feed, pasture; stables, fairly good; fair ventilation; yard, fairly dry; water, well.

J. Edmonds—Number of cows, 8; condition, good; feed, pasture; stables, good; ventilation, good; yard, dry; good drainage; water, well.

G. R. Martin—Number of cows, 8; condition, good; feed, pasture; stables, good; good ventilation; yard, dry; water, well.

At Kent City:

E. Sprague—Number of cows, 4; condition, good; feed, pasture; stables, good; ventilation, fair; yard, fair; water, well.

J. Stimpson—Number of cows, 8; condition, good; feed, pasture; stables, fair; ventilation fair; yard, fair; water, well.

C. Parrish—Number of cows, 12; condition, good; feed, pasture; stables, good; good ventilation; yard, dry; water, well.

George Hemsley—Number of cows, 8; condition, good; feed, pasture; stables, fair; good ventilation; yard, fairly dry; water, well.

J. A. Anderson—Number of cows, 10; condition, good; feed, pasture; stables, fair; good ventilation; yard, fair; water, well.

F. Doubleday—Number of cows, 5; condition, fair; feed, pasture; stables, good; ventilation, good; yard, dry; water, well.

G. K. Playton—Number of cows, 8; condition, good; feed, pasture; stables, good; ventilation, good; yard, fairly dry; water, well.

C. Church—Number of cows, 9; condition, fair; feed, pasture; stables, good; ventilation. fair; yard, dry; water, well.

G. O'Connell—Number of cows, 12; condition, fair; feed, pasture; stables, fair; ventilation, good; yard, dry; water, well.

G. Klink—Number of cows, 11; condition, good; feed, pasture; stables, fair; ventilation, fair; yard, fair; water, well.

H. Harodina—Number of cows, 12; condition, good; feed, pasture; stables. good; ventilation, fair; yard, fair; water, well.

A. L. Power—Number of cows, 16; condition, good; feed, pasture; stables, fairly good; fair ventilation; yard, dry; water, well.

At Mendon:

A. E. Beebe—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry; water, well.

W. Conkenard—Number of cows, 9; condition, good; feed, pasture; stables, fair; fair ventilation; yard, dry; water, well.

H. Wagner—Number of cows, 8; condition, good; feed, pasture, ground corn and oats; stables, good; good ventilation; yard, dry and clean; water, well.

J. Wagner—Number of cows, 6; condition, good; feed, pasture and oats; stables, fairly good and clean; fair ventilation; yard, dry; water, well.

J. W. Simpson—Number of cows, 8; condition, good; feed, pasture and oats; stables, good and clean; good ventilation; yard, dry and clean; water, well.

W. G. Simpson—Number of cows, 8; condition, good; feed, pasture, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; water, well.

C. Morantelli—Number of cows, 6; condition, good; feed, pasture and oats; stables, fairly good; yard, fair; fair ventilation; water, well.

L. Morantelli—Number of cows, 5; condition, good; feed, pasture and cornmeal; stables, good and clean; good ventilation; yard, dry and fairly clean; water, well.

S. Hoch—Number of cows, 6; condition, good; feed, pasture, ground corn and oats; stables, good and clean; good ventilation; yard, dry; water, well.

Wm. Flock—Number of cows, 9; condition, good; feed, pasture and meal; stables, fair; fair ventilation; yard, dry; water, well.

D. Coon—Number of cows, 6; condition, good; feed, pasture and grain; stables, fairly good; good ventilation; yard, dry; water, well.

J. Mumby—Number of cows, 8; condition, good; feed, pasture and cornmeal; stables, fair; fair ventilation; yard, dry; water, well.

E. Miller—Number of cows, 6; condition, good; feed, pasture and meal; stables, good and clean; good ventilation; yard, dry; water, well.

F. Huckendubler—Number of cows, 6; condition, good; feed, pasture; stables, fair; fair ventilation; yard, fairly dry; water, well.

T. Haas—Number of cows, 6; condition, good; feed, pasture; stables, fair and fairly clean; good ventilation; yard, dry; water, well.

Wm. Hoppel—Number of cows, 6; condition, good; feed, pasture; stables, fair; fair ventilation; yard, dry; water, well.

J. Scott—Number of cows, 6; condition, good; feed, pasture and meal; stables, good; fair ventilation; yard, dry; water, well.

I. Taylor—Number of cows, 6; condition, good; feed, pasture and oats; stables, good and clean; good ventilation; yard, dry; water, well.

G. Monton—Number of cows, 8; condition, good; feed, pasture and meal; stables, good, with good ventilation; yard, dry and clean; water, well.

C. Varheas—Number of cows, 8; condition, good; feed, pasture and meal; stables, good; good ventilation; yard, dry; water, well.

At Muskegon:

F. Saxe—Number of cows, 5; condition, good; feed, pasture; stables, fair; ventilation, fair; yard, dry; water, well.

W. Carlson—Number of cows, 9; condition, good; feed, pasture; stables, fair; ventilation, fair; yard, dry and clean; water, well.

H. Anderson—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; yard, good; ventilation, good; water, well.

F. Jones—Number of cows, 12; condition, good; feed, pasture; stables, fair; fair ventilation; yard, dry; water, well.

Mrs. M. Peterson—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

C. Peterson—Number of cows, 30; condition, good; feed, pasture and meal; stables, good and clean; good ventilation; yard, dry, good drainage; water, well.

M. Olson—Number of cows, 9; condition, good; feed, pasture; stables, fair; good ventilation; yard, dry; water, well.

C. Ward—Number of cows, 6; condition, good; feed, pasture; stables, fair; fair ventilation; yard, dry; water, well.

A. Worel—Number of cows, 15; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; water, well.

At Newaygo:

D. Powers—Number of cows, 4; condition, good; feed, pasture; stables, good; fair ventilation; yard, good; water, spring.

G. A. Day—Number of cows, 15; condition, good; feed, pasture; stables, good; fair ventilation; yard, fair; water, well.

H. Milliard—Number of cows, 5; condition, good; feed, pasture; stables, fair; good ventilation; yard, dry; water, well.

S. Ricket—Number of cows, 7; condition, good; feed, pasture; stables, fair; good ventilation; yard, fair; water, well.

H. W. Shorer—Number of cows, 8; condition, good; feed, pasture; stables, good; good ventilation; yard. good; water, well.

E. Pierce—Number of cows, 6; condition, good; feed, pasture; stables, fair; fair ventilation; yard, dry; water, well.

At Otsego:

Geo. Dessing—Number of cows, 12; condition, good; feed, pasture; ground corn and oats; stables, good and clean; good ventilation; yard, fairly dry; water, well.

F. Hugan—Number of cows, 8; condition, good; feed, pasture and cornmeal; stables, good with fair drainage; yard, dry; water, well.

C. Nevens—Number of cows, 5; condition, good; feed, pasture and meal; stables, good and clean, good ventilation; yard, dry and clean; water, well.

J. Crane—Number of cows, 5; condition, good; feed, pasture and bran; stables, good, with good ventilation; yard, dry; water, well.

J. Jesseph—Number of cows, 5; condition, good; feed, pasture and bran; stables, good, with fair ventilation; yard, fairly dry; water, well.

W. A. Potter—Number of cows, 10; condition, good; feed, hay, ground corn and oats; stables, good; good ventilation; yard, dry and clean; water, well.

E. Springer—Number of cows, 6; condition, good; feed, pasture and cornmeal; stables, good; good ventilation; yard, dry; water, well.

D. Bush—Number of cows, 8; condition, good; feed, pasture and cornmeal; stables, good; good ventilation; yard, dry; water, well.

O. Howe—Number of cows, 10; condition, good; feed, pasture and meal; stables ,good; good ventilation; yard, dry, good drainage; water, well.

O. Carthers—Number of cows, 6; condition, good; feed, pasture and meal; stables, fairly good; fair ventilation; yard, dry; water, well.

Frank Taws—Number of cows, 6; condition, good; feed. pasture and cornmeal; stables, good, with fair ventilation; yard, dry; water, well.

O. Stratton—Number of cows, 5; condition, good; feed, pasture, ground corn and oats; stables, good, with good ventilation; yard, dry; water, well.

A. Longnecker—Number of cows, 7; condition, good; feed, pasture and cornmeal; stables. good; good ventilation; yard, dry; water, well.

W. Scott—Number of cows, 5; condition, good and clean; feed, pasture and cornmeal; stables, good and clean; good ventilation; yard, dry; water, well.

S. E. Shears—Number of cows, 16; condition, good; feed, pasture, ground corn and oats; stables, good and clean; good ventilation; yard, dry; water, well.

F. Webster—Number of cows, 6; condition, good; feed, pasture, ground corn and oats; stables. good, with fair drainage; yard, dry and clean; water, well.

At Reeman:

W. A. Tibbits—Number of cows, 6; condition, good; feed, pasture; stables, good; good ventilation; yard, good; water, well.

L. Jordan—Number of cows, 7; condition, good; feed, pasture; stables, good; fair ventilation; yard, fair; water, well.

P. Dore—Number of cows, 6; condition, good; feed, pasture; stables, fair; fair ventilation; yard. fair; water, well.

J. Brotherton—Number of cows, 6; condition, good; feed, pasture; stables, good; good ventilation; yard, good; water, well.

J. Trens—Number of cows, 6; condition, good; feed, pasture; stables, good; fair ventilation; yard, fair; water, well.

G. L. Reed—Number of cows, 6; condition, good; feed, pasture; stables, good; good ventilation; yard, good; water, well.

D. Pikaart—Number of cows, 8; condition, good; feed, pasture; stables, fair; fair ventilation; yard, fair; water, well.

A. Lubars—Number of cows, 8; condition, good; feed, pasture; stables, good; good ventilation; yard, good; water, well.

C. Boyd—Number of cows, 7; condition, good; feed, pasture; stables, good; fair ventilation; yard, good; water, well.

George Haever—Number of cows, 5; condition, good; feed, pasture; stables, good; good ventilation; yard, good; water, spring.

J. Pell—Number of cows. 6; condition, fair; feed, pasture; stables, good; good ventilation; yard, dry; water, well.

E. Fisher—Number of cows, 7; condition, good; feed, pasture; stables, good; good ventilation; yard, fair; water, spring.

Wm. Tanis—Number of cows, 8; condition, good; feed, pasture; stables, good; ventilation, fair; yard, good; water, well.

A. Bum—Number of cows, 8; condition, good; feed. pasture; stables, good; fair ventilation; yard, good; water, well.

J. Wingarden—Number of cows, 7; condition, fair; feed, pasture; stables, fair; good ventilation; yard, fair; water, well.

J. Karnemaat—Number of cows, 6; condition, good; feed, pasture; stables, fair; fair ventilation; yard, fair; water, well.

At Sparta:

E. A. Bradford—Number of cows, 6; condition, good; feed, pasture, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; water, well.

O. S. Rice—Number of cows, 12; condition, good; feed, pasture and cornmeal; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

Henry Meyers—Number of cows, 10; condition, good; feed, pasture; stables, fair; fair ventilation; yard, dry; good drainage; water, well.

James Hope—Number of cows, 8; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, dry; good drainage; water, well and spring.

Mr. DeVass—Number of cows, 18; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; good drainage; water, well.

C. B. Purdy—Number of cows, 10; condition, good; feed, pasture and cornmeal; stables, good and clean; good ventilation; yard, dry; water, well.

Orson Bradford—Number of cows, 8; condition, good; feed, pasture; stables, good; fair ventilation; yard, fairly dry; fair drainage; water, well.

Allen Johnson—Number of cows, 8; condition, good; feed, pasture; stables, fair; fair ventilation; yard, dry; good drainage; water, well and spring.

Geo. McCanell—Number of cows, 10; condition, good; feed, pasture; stables, fair; fair ventilation; yard, fair; water, well.

Wm. Better—Number of cows, 8; condition, good; feed, pasture; stables, good; good ventilation; yard, dry; fairly clean; water, well and spring.

At Vicksburg:

W. R. Southworth—Number of cows, 20; condition, good; feed, pasture and bran; stables, good and clean; good ventilation; yard, dry and clean; water, well.

J. Young—Number of cows, 10; condition, good; feed, pasture and meal; stables, good and clean; good ventilation; yard, dry and fairly clean; water, well.

C. Richardson—Number of cows, 11; condition, good; feed, pasture and bran; stables, good and clean; good ventilation; yard, dry and clean; water, well.

H. Southworth—Number of cows, 6; condition, good; feed, pasture and bran; stables, fairly good; fair ventilation; yard, dry; water, well.

R. F. Mooney—Number of cows, 7; condition, good; feed, pasture and bran; stables, good and clean; yard, dry and clean; water, well.

F. Jenkinson—Number of cows, 6; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

John Weinberg—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

F. Neasmith—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and fairly clean; water, well.

C. Rischel—Number of cows, 7; condition, good; feed, pasture and bran; stables, fair; fair ventilation; yard, dry; water, well.

O. M. Winterly—Number of cows, 6; condition, good; feed, pasture; stables, fair, with fair ventilation; yard, dry; water, well.

L. Oswald—Number of cows, 12; condition, good; feed, pasture; stables, good, with fair ventilation; yard, dry; water, well.

Wm. Crouch—Number of cows, 16; condition, fair; feed, pasture and hay; stables, poor, poorly ventilated; yard, fair; water, well.

J. Hetrick—Number of cows, 5; condition, good; feed, pasture and meal; stables, fair; fair ventilation; yard, fair; water, well.

David Hoch—Number of cows, 5; condition, good; feed, pasture; stables, good, with good ventilation; yard, dry and fairly clean; water, well.

Daniel Hoch—Number of cows, 6; condition, good; feed, pasture; stables, fair; fair ventilation; yard, dry; water, well.

S. Vroman—Number of cows, 7; condition, good and clean; feed, pasture and meal; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

O. Goldsmith—Number of cows, 8; condition, good; feed, pasture and meal; stables, good, with fair ventilation; yard, dry; good drainage; water, well.

P. Dent—Number of cows, 5; condition, good; feed, pasture and bran; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

August Inspection.

At Alamo:

W. Ward—Number of cows, 5; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

H. Cartendall—Number of cows, 6; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry, good drainage; water, well.

H. Germain—Number of cows, 6; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

E. P. Hackley—Number of cows, 15; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

J. Q. Adams—Number of cows, 19; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; good drainage; water, well.

Aaron Tallman—Number of cows, 23; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

J. N. Ransom—Number of cows, 32; condition, good; feed, pasture, cornmeal and bran; stables, good and clean; good ventilation; yard, dry and clean; water, well.

J. Muff—Number of cows, 6; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

A. Mott—Number of cows, 6; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

At Albion:

T. C. Rodee—Number of cows, 28; condition, good; feed, pasture, stables, good and clean; good ventilation; yard, dry; good drainage; water, well.

C. L. Eslow—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; good drainage; water, well.

D. Hubbard—Number of cows, 16; condition, good; feed, pasture and meal; stables, good and clean: good ventilation; yard, dry and clean; water, well.

J. Sears—Number of cows, 6; condition, good; feed, pasture; stables, fair, good ventilation; yard, dry and clean; water, well.

C. Banchur—Number of cows, 7; condition, good; feed, pasture; stables, fairly good; good ventilation; yard, dry and clean; water, well.

A. E. Howell—Number of cows, 10; condition, good; feed, pasture; stables. fair; good ventilation; yard, dry and clean; water, well.

O. Strickland—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; good drainage; water, well.

F. Clark—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

Shephard & Harris—Number of cows, 9; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

A. J. Hunt—Number of cows, 8; condition, good; feed, pasture and corn meal; stables, good and clean; good ventilation; yard, dry and clean; water, well.

L. J. Shields—Number of cows, 30; condition, good; feed, pasture, corn meal, bran and middlings; stables, good and clean; good ventilation; yard, dry and clean; water, well.

C. R. Hartung—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; good drainage; water, well.

At Brant:

J. McIntyre—Number of cows, 5; condition, good; feed, pasture; stables, fair and clean; good ventilation; yard, dry; good drainage; water, well.

R. Bellenbaum—Number of cows, 9; condition, fair; feed, pasture; stables, good and clean; good ventilation; yard, dry; good drainage; water, well.

O. E. Gibson—Number of cows, 6; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

C. Jones—Number of cows, 5; condition, fair; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

P. Jones—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

H. Little—Number of cows, 10; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

Frank Gage—Number of cows, 15; condition, good; feed, pasture;

stables, good and clean; good ventilation; yard, dry and clean; water, well.

W. Crane—Number of cows, 15; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

George Ward—Number of cows, 10; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

E. Higley—Number of cows, 6; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

C. Curtis—Number of cows, 9; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

J. Thompson—Number of cows, 8; condition, good; feed, pasture; stables, fair; fair ventilation; yard, dry and clean; water, well.

A. McCall—Number of cows, 8; condition, good; feed, pasture; stables, fair and clean; ventilation, fair; yard, dry; good drainage; water, well.

B. Burgess—Number of cows, 6; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, dry and clean; water, well.

W. Ward—Number of cows, 9; condition, good; feed, pasture; stables, fair and fairly clean; good ventilation; yard, dry and clean; water, well.

J. Jennings—Number of cows, 7; condition, good; feed, pasture; stables, fair; fair ventilation; yard, fairly dry; water, well.

At Grand Ledge:

Z. Brown—Number of cows, 12; condition, good; feed, pasture and meal; stables, good and clean; good ventilation; yard, dry and clean; water, well.

Barber & Sherart—Number of cows, 42; condition, good; feed, pasture and corn meal; stables, extra good and clean; good ventilation; yard, dry; good drainage; water, well and spring.

At Marshall:

Lathrop Bros.—Number of cows, 22; condition, good; feed, pasture and corn meal; stables, cement floor, neat and clean; ventilation, good; yard, dry and clean; water, well and river.

L. C. Calkins—Number of cows, 46; condition, good; feed, pasture; stables, good and clean; cement floor; ventilation, good; yard, dry and clean; water, well.

W. G. Williamson—Number of cows, 25; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

Lowell & Hammond—Number of cows, 17; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

N. Vose—Number of cows, 10; condition, good; feed, pasture; stables, fair; fair ventilation; yard, dry and clean; water, well.

J. Hughes—Number of cows, 10; condition, good; feed, pasture; stables, fair; fair ventilation; yard, dry and clean; water, well.

G. Smith—Number of cows, 10; condition, good; feed, pasture; stables, fair and clean; fair ventilation; yard, dry and clean; water, well.

T. Lusk—Number of cows, 15; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; good drainage; water, well.

J. H. Fountain—Number of cows, 10; condition, good; feed, pasture and oats; stables, fair and clean; fair ventilation; yard, dry and clean; water, well.

A. Lockwood—Number of cows, 39; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

At Plymouth:

Geo. Lee—Number of cows, 20; condition, good; feed, pasture and bran; stables, good and clean; cement floor; ventilation, good; yard, dry; good drainage; water, spring.

E. Evart—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; good drainage; water, well.

F. Standard—Number of cows, 12; condition, good; feed, pasture and corn meal; stables, good and clean; cement floor; good ventilation; yard, dry and clean; water, well.

E. J. Norris—Number of cows, 7; condition, good; feed, pasture and meal; stables, fair; yard, dry and clean; water, spring.

J. Zanden—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; good drainage; water, well.

J. Henderson—Number of cows, 14; condition, good; feed, pasture; stables, good and clean; cement floor; good ventilation; yard, dry; good drainage; water, well.

H. Aclar—Number of cows, 10; condition, good; feed, pasture; stables, fair, and fairly clean; fair ventilation; yard, dry and clean; water, well and spring.

S. B. Stoneburner—Number of cows, 43; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well and spring.

W. Stall—Number of cows, 6; condition, good; feed, pasture; stables, fair; fair ventilation; yard, dry; good drainage; water, well.

F. Amerhein—Number of cows, 14; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; good drainage: water, well.

E. Westfall—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

E. Winhart—Number of cows, 12; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, fairly dry and clean; water, well.

A. Felsner—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; good drainage; water, well.

G. Macomber—Number of cows, 9; condition, good; feed, pasture; stables, fair and fairly clean; good ventilation; yard, dry and clean; water, well.

W. G. Johnson—Number of cows, 10; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

D. Oliver—Number of cows, 9; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; good drainage; water, well.

W. Eckel—Number of cows, 19; condition, good; feed, pasture and oats; stables, good and clean; good ventilation; yard, dry and clean; water, well.

G. Barlow—Number of cows, 14; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, spring.

J. C. Drayton—Number of cows, 15; condition, good; feed, pasture; stables, fair and fairly clean; ventilation, good; yard, dry and clean; water, well.

F. Ware—Number of cows, 14; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, wet; poor drainage; water, well.

At Ypsilanti:

O. A. Answorth—Number of cows, 60; condition, good; feed, pasture; ground corn, oats and bran; stables, extra good and clean; ventilation, good; yard, dry and clean; good ventilation; water, well and spring.

September Inspection.

At Bradley:

C. C. Rogers—Number of cows, 17; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well and spring.

G. W. Wait—Number of cows, 9; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

W. Jones—Number of cows, 11; condition, good; feed, pasture; stables, fair, with fair ventilation; yard, dry and clean; water, well.

D. Crab—Number of cows, 9; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

Miner & Wood—Number of cows, 9; condition, good; feed, pasture; stables, poor; ventilation, poor; yard, fair and fairly clean; water, well.

H. F. Buskirk—Number of cows, 20; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

Sheldon & Muir—Number of cows, 20; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

A. N. Baker—Number of cows, 9; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

At Buchanan:

Allen & Boyle—Number of cows, 22; condition, good; feed, pasture and corn meal; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

H. P. Smith—Number of cows, 6; condition, good, feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

J. Fair—Number of cows, 5; condition, good; feed, pasture; stables, poor; poor ventilation; yard, fair; water, well.

G. W. Lee—Number of cows, 8; condition, good; feed, pasture and meal; stables, good and clean; good ventilation; yard, dry and clean; water, well.

F. Noggle—Number of cows, 5; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, dry; fair drainage; water, spring.

At Cassopolis:

John Van Riper—Number of cows, 30; condition, good; feed, pasture, ground rye and oats; stables, fair and clean; fair ventilation; yard, dry and clean; water, well.

G. A. Rickard—Number of cows, 5; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

W. C. Harris—Number of cows, 5; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, dry and clean; water, well.

C. H. Kummerlin—Number of cows, 15; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

C. Stetch—Number of cows, 6; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

F. Lamb—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

J. G. Hayden—Number of cows, 24; condition, good; feed, pasture and meal; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

J. I. Robinson—Number of cows, 20; condition, good; feed, pasture and meal; stables, good and clean; good ventilation; yard, dry; good drainage; water, well.

W. Shute—Number of cows, 8; condition, good; feed, pasture and grain; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

W. B. Lane—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

M. Cook—Number of cows, 16; condition, good; feed, pasture and corn meal; stables, good and clean; ventilation, good; yard, dry; good drainage; water, well.

At Centreville:

R. Cauffman—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; good drainage; water, well.

F. Kuecht—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

C. Wahl—Number of cows, 5; condition, good; feed, pasture; stables, fair and clean; fair ventilation; yard, dry and clean; water, well.

L. Wiles—Number of cows, 6; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

F. W. Smith—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

C. Myers—Number of cows, 10; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and fairly clean; water, well.

H. Laubach—Number of cows, 9; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and fairly clean; water, well.

C. Truckammiller—Number of cows, 15; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

At Charlotte:

D. T. Sheldon—Number of cows, 7; condition, good; feed, pasture and corn; stables, fair and clean; fair ventilation; yard, dry and clean; water, well.

G. Crusan—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry; good drainage; water, well.

T. Litchfield—Number of cows, 10; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry; good drainage; water well.

H. Davis—Number of cows, 14; condition, good; feed, pasture and grain; stables, good and clean; good ventilation; yard, dry and clean; water, well.

F. Spicer—Number of cows, 6; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

J. Bryan—Number of cows, 10; condition, good; feed, pasture and sowed corn; stables, good and clean; fair ventilation; yard, dry and clean; good drainage; water, well.

L. Edick—Number of cows, 14; condition, good; feed, pasture, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

J. P. Perkins—Number of cows, 7; condition, good; feed, pasture and meal; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

J. McCrassen—Number of cows, 8; condition, good; feed, pasture and grain; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

O. P. Morse—Number of cows, 6; condition, good; feed, pasture and meal; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

W. W. Merritt—Number of cows, 5; condition, good; feed, pasture; stables, good; fair ventilation; yard, dry and clean; water, well.

R. H. Bahn—Number of cows, 6; condition, good; feed, pasture; stables, good; fair ventilation; yard, dry and clean; water, well.

F. Martin—Number of cows, 7; condition, good; feed, pasture and grain; stables, extra good and clean; yard, dry and clean; good drainage; water, well.

J. R. Elliott—Number of cows, 14; condition, good; feed, pasture, ground corn and oats; stables, fair and clean; good ventilation; yard, dry and clean; water, well.

F. Smith—Number of cows, 12; condition, good; feed, pasture and meal; stables, good and clean; good ventilation; yard, dry and clean; water, well.

H. Perken—Number of cows, 5; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, dry; good drainage; water, well.

H. Gibbs—Number of cows, 7; condition, good; feed, pasture; stables, fair; fair ventilation; yard dry and clean; water, well.

J. Frier—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

J. J. Creitz—Number of cows, 10; condition, good; feed, pasture and meal; stables, good and clean; good ventilation; yard, dry and clean; water, well.

At Elsie:

J. Watson—Number of cows, 17; condition, good; feed, pasture; stables, fairly good and clean; fair ventilation; yard, fair; water, spring.

A. Van Dusen—Number of cows, 17; condition, good; feed, pasture; stables, extra good and clean; ventilation, good; yard, fair; water, well and spring.

H. Brown—Number of cows, 11; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

M. L. Tillotson—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, spring.

L. G. Bates—Number of cows, 10; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair and clean; water, well.

H. F. Lewis—Number of cows, 9; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, fair; water, well.

C. H. Warner—Number of cows, 15; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

E. Lewis—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

B. Scott—Number of cows, 10; condition, good; feed, pasture; stables, fair and clean; fair ventilation; yard, fair; water, well.

C. Emmert—Number of cows, 14; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, clean; water, well.

E. Holteman—Number of cows, 8; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, fair; water, spring.

H. Van Dusen—Number of cows, 9; condition, good; feed, pasture; stables, rebuilding; yard, fair and fairly dry; water, well.

E. Heince—Number of cows 6; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, fair; water, well.

E. E. Lee—Number of cows, 45; condition, extra good; feed, pasture, bran and middlngs; stables, good and clean; good ventilation; yard, fair and fairly clean; water, well.

L. B. Creger—Number of cows, 10; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

O. Hicks—Number of cows, 7; condition, good; feed, pasture; stables, fairly good and clean; fair ventilation; yard, fair; water, well.

W. Day—Number of cows, 14; condition, good; feed, pasture; stables, fairly good; fair ventilation; yard, fair; water, spring.

A. Tabor—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

B. Gorrell—Number of cows, 10; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, fair; water, well.

L. Bennett—Number of cows, 7; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, fair; water, spring.

Mrs. C. Bennett—Number of cows, 7; condition good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well and spring.

A. Williams—Number of cows, 25; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair and clean; water, well.

F. Taylor—Number of cows, 26; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

A. Valentine—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, spring.

W. Crumm—Number of cows, 15; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

G. Cobb—Number of cows, 9; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well and spring.

S. Squires—Number of cows, 13; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, fair; water, well.

C. H. Kline—Number of cows, 12; condition, good; feed, pasture; stables, fair and clean; fair ventilation; yard, fair; water, well and spring.

H. F. Shilenberger—Number of cows, 10; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

G. W. Bower—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, spring.

A. W. Chamberlain—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

B. O. Ackmoody—Number of cows, 11; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

A. Love—Number of cows, 9; condition, good; feed, pasture; stables, fair and fairly clean; yard, fair; fair ventilation; water, well.

At Freeport:

W. H. Bird—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

O. L. Newton—Number of cows, 7; condition, fine; feed, pasture; stables, fair and clean; fair ventilation; yard, dry and clean; water, well.

F. Winger—Number of cows, 20; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

M. Harrington—Number of cows, 6; condition, fair; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, dry; good drainage; water, well.

H. Eckert—Number of cows, 10; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

C. Lawler—Number of cows, 5; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

W. Parker—Number of cows, 9; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

J. Parker—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; good drainage; water, well.

T. Cargon—Number of cows, 10; condition, good; feed, pasture; stables, fair and clean; yard, dry; good drainage; fair ventilation; water, well.

E. Gray—Number of cows, 11; condition, good; feed, pasture; stables, good and clean; yard, dry and clean; good drainage; ventilation. good; water, well.

A. B. Steckle—Number of cows, 21; condition, good; feed, pasture; stables, good and clean; yard, dry and clean; good ventilation; water, well.

At Galien:

A. Roundy—Number of cows, 20; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, spring.

J. Norman—Number of cows, 6; condition, good; feed, pasture; stables. poor; ventilation, poor; yard, fair; water, well.

J. Brinket—Number of cows, 5; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, dry and clean; water, well and spring.

Mrs. M. Stonner—Number of cows, 6; condition, good; feed, pasture; stables, fair; ventilation, fair; yard. fair and fairly clean; water, well and spring.

G. Bohn—Number of cows, 10; condition, good; feed, pasture; stables, fair and clean; fair ventilation; yard, dry and clean; water, well.

J. Wedel—Number of cows, 8; condition, good; feed, pasture; stables, fair; ventilation, fair; yard, fair and fairly dry; water, well.

P. Earich—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and fairly clean; water, well.

At Hickory Corners:

W. Lyons—Number of cows, 6; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

J. Frick—Number of cows, 10; condition, good; feed, pasture; stables, good; ventilation, fair; yard, dry and clean; water, well.

A. E. Bressee—Number of cows, 7; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, dry and clean; water, well.

N. Chapin—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and fairly clean; water, well.

F. Lawrence—Number of cows, 5; condition, good; feed, pasture; stables, good and clean; yard, dry; good drainage; water, well.

H. Barnes—Number of cows, 5; condition. good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

J. McKensey—Number of cows, 10; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

L. Edmonds—Number of cows, 12; condition, good; feed, pasture; stables, good; good ventilation; yard, dry and clean; water, well.

H. Bellinger—Number of cows, 10; condition, good; feed. pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

H. Wickwire—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; good drainage; water, well.

T. Wells—Number of cows, 5; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry; good drainage; water, well.

E. Grinder—Number of cows. 6; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, dry; fair drainage; water, well.

At Ithaca:

John Sales—Number of cows, 9; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; water, spring.

Azen Rabeler—Number of cows, 14; condition. good; feed, pasture; stables. good and clean; fair ventilation; yard. fair; water, well.

V. R. Russell—Number of cows. 10; condition good; feed. pasture; stables. good and clean; good ventilation; yard. dry and clean; water, well.

W. F. Neldred—Number of cows. 27; condition. good; feed. pasture; stables. good and clean; good ventilation; yard. fair and fairly dry; water. city.

At Middleville:

J. Anbil—Number of cows. 10; condition. good; feed. pasture; stables, fair and fairly clean; fair ventilation; yard. dry and clean; water. well.

B. Campbell—Number of cows. 12; condition. good; feed, pasture;

stables, fair and fairly clean; fair ventilation; yard, fair; water, well and lake.

J. Otto—Number of cows, 10; condition, good; feed, pasture; stables, fair; fair ventilation; yard, fair; good drainage; water, well.

E. J. McNaughton—Number of cows, 10; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

J. Senesby—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

J. Dowerman—Number of cows, 9; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well and spring.

J. Brought—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, spring.

Griffith & Smith—Number of cows, 14; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

R. Baker—Number of cows, 16; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

E. Bennett—Number of cows, 15; condition, good; feed, pasture; stables, poor; poor ventilation; yard, fair; water, well.

E. S. Grosfend—Number of cows, 13; condition, good; feed, pasture; stables, dirty and dusty; yard, fair and dry; water, well.

C. R. Convers—Number of cows, 17; condition, good; feed, pasture; bran and middlings; stables, fair and clean; fair ventilation; yard, dry and clean; water, spring.

A. Church—Number of cows, 5; condition, good; feed, pasture; stables, fair with fair ventilation; yard, dry and fairly clean; water, well.

J. Clark—Number of cows, 6; condition, good; feed, pasture; stables, fair; fair ventilation; yard, dry and clean; water, well.

S. J. Weaver—Number of cows, 6; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

I. Gray—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

W. Cridler—Number of cows, 16; condition, good; feed, pasture; stables, good and clean; yard, dry and clean; water, well.

At Three Oaks:

E. K. Warren—Number of cows, 110; condition, good; feed, pasture and cut corn; stables, good and clean; nicely whitewashed; good ventilation; yard. dry and clean; good drainage; water, well and spring.

E. L. Kelly—Number of cows, 39; condition, good; feed, pasture and cut corn; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well and spring.

E. G. Thomas—Number of cows, 19; condition, good; feed, pasture; stables, good and clean; fair ventilation; yards, dry and clean; water, well.

S. M. Copeland—Number of cows, 14; condition, good; feed, pasture ground corn and oats; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

C. M. Reynolds—Number of cows, 6; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and fairly clean; water, well.

N. C. Wilson—Number of cows, 5; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, fairly dry; water, well.

C. Close—Number of cows, 14; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

E. H. Wright—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

G. Shelley—Number of cows, 7; condition, good; feed, pasture; stables, good; fair ventilation; yard, fair; water, well.

A. C. Copeland—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

A. F. Witt—Number of cows, 24; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, fair and fairly clean; water, well.

J. Gailler—Number of cows, 7; condition, good; feed, pasture; stables, good; fair ventilation; yard, fair; water, well.

M. Rist—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, fair; water, well.

L. Heise—Number of cows, 6; condition, good; feed, pasture; stables, good; fair ventilation; yard, fairly dry; water, well.

M. Howser—Number of cows, 9; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and fairly clean; water, well.

J. Schwark—Number of cows, 7; condition good; feed, pasture; stables, good and clean; good ventilation; yard, fair and fairly dry; water, well.

Fritz Kluth—Number of cows, 9; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

G. Miller—Number of cows, 5; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

C. Crassow—Number of cows, 10; condition, good; feed, pasture; stables, poor; ventilation, poor; yard, dry and clean; water, well.

At Vermontville:

L. S. Cotton—Number of cows, 22; condition, good; feed, pasture and corn meal; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well and creek.

H. S. Dickson—Number of cows, 20; condition, good; feed, pasture and grain; stables, good and clean; good ventilation; yard, dry and clean; water, well.

D. W. Joppy—Number of cows, 10; condition, good; feed, pasture and meal; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

J. N. Hawkins—Number of cows, 8; condition, good; feed, pasture and grain; stables, good and clean; good ventilation; yard, dry and clean; water, well.

D. W. Smith—Number of cows, 6; condition, good; feed, pasture and meal; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

S. Mosher—Number of cows, 8; condition, good; feed, pasture and meal; stables, good and clean; good ventilation; yard, dry and clean; water, well.

S. Gutchis—Number of cows, 7; condition, good; feed, pasture and meal; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

At Wayland:

A. E. Sias—Number of cows, 12; condition, good; feed, pasture; stables, poor and dusty; poor ventilation; yard, dry; water, well.

F. Jones—Number of cows, 5; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

A. E. Chapman—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

H. P. Hudson—Number of cows, 7; condition, good; feed, pasture;

stables, good and clean; cement floor; fair ventilation; yard, dry; water, well.

R. Smith—Number of cows, 5; condition, good; feed, pasture; stables, fair; fair ventilation; yard, dry and clean; water, well.

C. D. Carpenter—Number of cows, 5; condition, good; feed, pasture; stables, rebuilding and repairing; yard, dry and clean; water, well.

E. P. Hersey—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, spring.

F. Schwartz—Number of cows, 11; condition, good; feed, pasture; stables, good and clean; cement floor; fair ventilation; yard, dry and clean; water, well.

F. Levenduski—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, well.

W. Levenduski—Number of cows, 5; condition, good; feed, pasture; stables, fair with fair ventilation; yard dry and fairly clean; water, spring.

M. C. Haywood—Number of cows, 11; condition, good; feed, pasture; stables, fair with fair ventilation; yard, fairly dry and clean; water, spring.

C. Calkins—Number of cows, 5; condition, good; feed, pasture; stables, poor and dirty; poor ventilation; yard, fair and fairly clean; water, well.

C. H. Brush—Number of cows, 9; condition, good; feed, pasture; stables, good and clean; cement floor; good ventilation; yard, dry and clean; water, spring.

L. Jawaski—Number of cows, 8; condition, good; feed, pasture; stables, cement floor, fairly clean; fair ventilation; yard, dry and clean; water, well.

J. Norwalk—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, spring.

J. H. Fenner—Number of cows, 11; condition, good; feed, pasture; stables, cement floor, clean; good ventilation; yard, dry and clean; water, well.

W. Calkins—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, spring.

S. Conrad—Number of cows, 11; condition, good; feed, pasture; stables, good, cement floor; fair ventilation; yard, dry and clean; water, well.

E. Jordan—Number of cows, 7; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, dry; fair drainage; water, spring.

At Woodland:

H. E. Rising—Number of cows, 15; condition, good; feed, pasture and grain; stables, good and clean; yard, dry; good drainage; fair ventilation; water, well.

J. Griebel—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; yard, dry and clean; fair ventilation; water, well.

J. J. Eckart—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; yard, dry and clean; good ventilation; water, well.

W. Barnum—Number of cows, 8; condition, good; feed, pasture; stables, good and fairly clean; yard, dry and clean; good ventilation; water, well.

O. D. Stevens—Number of cows, 11; condition, good; feed, pasture and meal; stables, good and clean; yard, dry and clean; good ventilation; water, well.

O. Bartinger—Number of cows, 8; condition, good; feed, pasture and grain; stables, good and clean; yard, dry and clean; fair ventilation; water, well.

I. Smith—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; yard, dry; good drainage; fair ventilation; water, well.

S. Sprinkett—Number of cows, 8; condition, good; feed, pasture; stables, fair and clean; yard, dry and clean; fair ventilation; water, well.

F. Schray—Number of cows, 6; condition, good; feed, pasture; stables, fair and clean; yard, dry; good drainage; fair ventilation; water, well.

H. Curtiss—Number of cows, 8; condition, good; feed, pasture and meal; stables, good and clean; yard, dry; good drainage; fair ventilation; water, well.

C. Young—Number of cows, 7; condition, good; feed, pasture; stables, fair and clean; yard, dry and clean; fair ventilation; water, well.

B. Shray—Number of cows, 5; condition, good; feed, pasture; stables, fair and clean; yard, dry; good drainage; fair ventilation; water, well.

L. Poorman—Number of cows, 9; condition, good; feed, pasture; stables, good and clean; yard, dry and clean; good ventilation; water, well.

I. H. Eddy—Number of cows, 8; condition, good; feed, pasture and meal; stables, good and clean; yard, dry and clean; good ventilation; water, well.

October Inspection.

At Brown City:

J. D. Erb—Number of cows, 16; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

W. McNellie—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

J. Stimpson—Number of cows, 16; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry; water, well.

S. R. Whiting—Number of cows, 47; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

T. Harrison—Number of cows, 15; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

J. Young—Number of cows, 14; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

J. Marion—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

J. Gunn—Number of cows, 16; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, fair; water, well.

At Carsonville:

M. J. O'Mera—Number of cows, 14; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, good and dry; water, well.

J. Jones—Number of cows, 30; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

T. Johnson—Number of cows, 14; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, fairly dry; water, well.

J. DeWan—Number of cows, 10; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, fair; water, well.

J. Trieler—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

W. Smith—Number of cows, 9; condition, fair; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, dry and clean; water, well.

W. Thompson—Number of cows, 14; condition, good; feed, pasture; stables, fairly good; fair ventilation; yard, fair; water, well.

H. Rutel—Number of cows, 8; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, fair; water, well.

W. Graham—Number of cows, 12; condition, fair; feed, pasture; stables, good and clean; fair ventilation; yard, fair; water, well.

J. Wright—Number of cows, 10; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, fair; water, well.

At Galesburg:

J. W. Kaywood—Number of cows, 38; condition, good; feed, pasture and bran; stables, extra good and clean; ventilation, latest improvement; yard, dry and clean; water, well.

W. A. Blake—Number of cows, 12; condition, good; feed, pasture and bran; stables, good and clean; good ventilation; yard, dry and clean; water, well.

L. Abbott—Number of cows, 11; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

C. Wayland—Number of cows, 10; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

S. McClarey—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, dry and clean; water, well.

At Jamestown:

D. Branderhat—Number of cows, 8; condition, fair; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, fair; water, spring.

J. VanRhee—Number of cows, 7; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, fair; water, well.

P. Vanderslik—Number of cows, 6; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, fair; water, spring.

P. Rynbrandt—Number of cows, 6; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, fair; water, well.

B. TerHar—Number of cows, 7; condition, good; feed, pasture; stables, fair and clean; fair ventilation; yard, fair; water, well.

J. Bowman—Number of cows, 5; condition, good; feed, pasture; stables, fairly good; fair ventilation; yard, fair; water, well.

J. Schipper—Number of cows, 6; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, fair; water, well.

D. VanDeBunt—Number of cows, 8; condition, good; feed, pasture and corn; stables, good and clean; fair ventilation; yard, fair; water, spring.

J. Lenhur—Number of cows, 11; condition, good; feed, pasture; stables, fairly good; fair ventilation; yard, fair; water, well.

N. Hawkes—Number of cows, 9; condition, good; feed, pasture; stables, good and clean; fair ventilation; yard, dry and clean; water, spring.

At Lake Odessa:

F. Rohlass—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

R. Galseur—Number of cows, 10; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

L. Cook—Number of cows, 10; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

O. Cooley—Number of cows, 6; condition, good; feed, pasture; stables, fairly clean; fair ventilation; yard, fair; water, well.

H. Shive—Number of cows, 5; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, fair; water, well.

F. Cooley—Number of cows, 5; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, fair; water, well.

B. Bliss—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fairly dry; water, well.

W. Shellhorn—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fairly dry; water, well.

At Mulliken:

W. Wilcox—Number of cows, 10; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, fairly dry; water, well.

C. Hilliker—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

H. Stern—Number of cows, 5; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

G. D. Niles—Number of cows, 5; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

C. Randall—Number of cows, 6; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, fair; water, well.

C. Cryderman—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

George E. Potter—Number of cows, 10; condition, good; feed, pasture;

stables, good and clean; good ventilation; yard, fairly dry; water, well and spring.

W. Brown—Number of cows, 12; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

W. Hawes—Number of cows, 8; condition, good; feed, pasture; stables, good and clean; good ventilation; yard. fair; water, well.

J. Nichol—Number of cows, 10; condition, good; feed, pasture and meal; stables, good and clean; good ventilation; yard, fairly dry; water, well.

O. Nichol—Number of cows, 7; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water well.

H. Peabody—Number of cows, 10; condition, good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, well.

At North Branch:

S. S. Lee—Number of cows, 12; condition. good; feed, pasture; stables, good and clean; good ventilation; yard, fair; water, spring.

W. Kruscheuski—Number of cows, 11; condition, good; feed, pasture; stables, fair and fairly clean; fair ventilation; yard, fair; water, spring.

November Inspection.

At Grass Lake:

F. Divelle—Number of cows, 125; condition, good; feed, pasture, bran and gluten; stables, extra good; ventilation, good; yard, dry and clean; water, well.

C. Cassiday—Number of cows, 15; condition. good; feed, pasture, bran and gluten; stables, good and clean; good ventilation; yard, dry and clean; water, well.

L. E. Dwelle—Number of cows, 30; condition, good; feed, pasture, bran and gluten; stables, good and clean; good ventilation; yard, dry and clean; water, well.

C. B. Coe—Number of cows, 20; condition, good; feed, pasture, silage and bran; stables, good and clean; good ventilation; yard, dry and clean; water, well.

C. C. Dorr—Number of cows. 15; condition, good; feed, pasture, bran and middlings; stables, good and clean; good ventilation; yard, dry and clean; water, well.

C. Myer—Number of cows, 15; condition, good; feed, pasture, bran and middlings; stables, good and clean; good ventilation; yard. dry and clean; water, well.

M. G. Smith—Number of cows, 15; condition, good; feed, pasture, bran and middlings; stables. good and clean; good ventilation; yard, dry and clean; water, well.

E. Delton—Number of cows, 25; condition, good; feed, pasture, gluten, bran and middlings; stables, good; good ventilation; yard, dry and clean; water, well.

W. K. Craft—Number of cows, 20; condition, good; feed, pasture, bran, middlings and gluten; stable, good and clean; fair ventilation; yard, dry and clean; water, well.

Mrs. M. Clark—Number of cows, 15; condition. good; feed, pasture, bran, middlings and gluten; stables, good and clean; good ventilation; yard, dry and clean; water, well.

At Mason:

W. H. Moore—Number of cows, 18; condition, good; feed, pasture, bran and middlings; stable, good and clean; good ventilation; yard, dry and clean; water, well.

M. McCurdy—Number of cows, 17; condition, good; feed, pasture and sugar-beets; stables, good and clean; good ventilation; yard, dry and clean; water, well.

R. F. Griffin—Number of cows. 22; condition, good; feed, pasture and sugar-beets; stables, good and clean; fair ventilation; yard, fairly dry; water, well.

At Parma:

G. B. King—Number of cows, 20; condition, good; feed, pasture, bran, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; water, well.

G. D. Eggleston—Number of cows, 18; condition, good; feed, pasture, silage, ground wheat and oats; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

E. M. Foster—Number of cows, 19; condition, good; feed, pasture and corn; stables, extra good and clean; good ventilation; yard, dry and clean; water, well.

E. Flewalling—Number of cows, 12; condition, good; feed, pasture and corn; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

S. Foster—Number of cows, 22; condition, good; feed, pasture, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; water, well.

M. W. Clark—Number of cows, 22; condition, good; feed, pasture, silage and bran; stables, good; good ventilation; yard, dry and clean; water, well.

J. A. Campbell—Number of cows, 11; condition, good; feed, pasture and corn; stables, good and clean; good ventilation; yard, dry and clean; fair drainage; water, well.

C. Campbell—Number of cows, 11; condition, good; feed, pasture and corn; stables, good and clean; good ventilation; yard, dry and clean; water, well.

G. Hoeg—Number of cows, 14; condition, good; feed, pasture, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; water, well.

C. Mackay—Number of cows, 12; condition, good; feed, pasture, corn and bran; stables, extra good and clean; good ventilation; yard, dry and clean; water, well.

R. E. Scott—Number of cows, 10; condition, good; feed, pasture and corn; stables, good and fairly clean; fair ventilation; yard, dry and clean; water, well.

Housman Bros.—Number of cows, 12; condition, good; feed, pasture and ensilage; stables, good and clean; good ventilation; yard, dry and clean; water, well.

December Inspection.

At Adrian:

J. W. Helme—Number of cows, 11; condition, extra good; feed, corn, silage, cottonseed meal, bran and clover hay; stables, extra good and clean; fair ventilation; water, city.

At Battle Creek:

W. J. Foster—Number of cows, 16; condition, good and clean; feed, hay, silage, ground corn, oats and bran; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

G. R. Peet—Number of cows, 20; condition, good; feed, hay, stover, ground corn, oats and bran; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

A. Rimes—Number of cows, 10; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

A. M. Mintey—Number of cows, 18; condition, good; feed, hay, silage, ground corn, oats and bran; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

Ed. Andrews—Number of cows, 10; condition, good; feed, hay, silage, ground corn, oats and bran; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

Dale Fuller—Number of cows, 12; condition, good; feed, hay, stover, bran, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

F. B. Garrett—Number of cows, 10; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean; fair ventilation; yard, dry and fairly clean; fair drainage; water, well.

G. C. Hicks & Son—Number of cows, 20; condition, good; feed, hay, stover, ensilage, bran, ground corn and oats; stables, good and clean with good ventilation; yard, dry and clean; good drainage; water, well.

R. Pool—Number of cows, 6; condition, good; feed, hay, stover, bran, ground corn and oats; stables, good and clean; fair ventilation; yard, dry and fairly clean; good drainage; water, well.

S. E. Woodworth—Number of cows, 18; condition, good and clean; feed, hay, ensilage, bran, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, spring.

J. M. Willison—Number of cows, 21; condition, good; feed, hay, ensilage, bran, ground corn and oats; stables, fair, but clean; fair ventilation; yard, dry and fairly clean; good drainage; water, well.

H. Hamlin—Number of cows, 12; condition, good; feed, hay, stover, bran, ground corn and oats; stables, good and fairly clean; good ventilation; yard, dry and clean; fair drainage; water, well.

W. T. Sackrider—Number of cows, 32; condition, good; feed, hay, ensilage, bran, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

G. A. Crout—Number of cows, 20; condition, good; feed, hay, stover, bran, ground corn and oats; stables, good and clean; fair ventilation; yard, dry and fairly clean; fair drainage; water, well.

M. Austin—Number of cows, 12; condition, good; feed, hay, stover, ground corn, oats and bran; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

W. D. Wyman—Number of cows, 11; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean; fair ventilation; yard, fairly dry and clean; good drainage; water, well.

Isaac Willis—Number of cows, 27; condition, good; feed, hay, ensilage, ground corn, oats and bran; stables, fair, but clean; fair ventilation; yard, dry and clean; fair drainage; water, well.

C. G. Convis—Number of cows, 17; condition, good; feed, hay, stover, corn and bran; stables, fair and fairly clean; fair ventilation; yard, dry and fairly clean; fair drainage; water, well.

Schmidt Bros.—Number of cows, 22; condition, good; feed, hay, stover, ground corn, oats and bran; stables, good and clean; good ventilation; yard dry and clean, good drainage; water, well.

W. W. Sprague—Number of cows, 26; condition, good and clean; feed, hay, ensilage, ground corn, oats and bran; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

H. Day—Number of cows, 18; condition, good and clean; feed, hay, stover, cornmeal and bran; stables, good and clean; fair ventilation; yard, dry and clean; good drainage; water, well.

E. Sanford—Number of cows, 27; condition, extra good and clean; feed, hay, ensilage, ground corn, oats and bran; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

Austin N. Reed—Number of cows, 25; condition, good and clean; feed, hay, ensilage, ground corn, oats and bran; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

D. Eccles—Number of cows 18; condition, good and clean; feed, hay, ensilage, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

C. Eyre—Number of cows, 8; condition, good; feed, hay, stover, ground corn, oats and bran; stables, good and fairly clean; good ventilation; yard, dry and clean; fair drainage; water, well.

C. Hutchinson—Number of cows, 15; condition, good and clean; feed, hay, stover, ground corn, oats and bran; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

L. Newbre—Number of cows, 14; condition, good; feed, hay, stover. ground corn, oats and bran; stables, good and clean; good ventilation; yard, dry and clean; fair drainage; water, well.

F. A. Fuller—Number of cows, 12; condition, good and clean; feed, hay, ensilage, ground corn, oats and bran; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

E. D. Andrews—Number of cows. 10; condition, good; feed, hay, ensilage, ground corn, oats and bran; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

A. M. Minty—Number of cows, 18; condition, good and clean; feed, hay, ensilage, ground corn, oats and bran; stables, extra good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

A. Rimes—Number of cows, 10; condition, good; feed, hay, stover, ground corn, oats and bran; stables, good and clean; good ventilation; yard, dry and clean; fair drainage; water, well.

J. Weaver—Number of cows, 16; condition, good; feed, hay, stover, ground corn and oats; stables, extra good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

B. J. Morgan—Number of cows, 50; condition, good; feed, hay, ensilage, bran, ground corn and oats; stables, good and clean; fair ventilation; yard, fairly dry and clean; water, well.

W. H. Barber—Number of cows, 30; condition, good; feed, hay, stover, ground corn, oats and bran; stables, good and clean; fair ventilation; yard, dry and fairly clean; water, well.

Geo. R. Peete—Number of cows, 20; condition, good and clean; feed, hay, ensilage, ground corn, oats and bran; stable, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

A. Lapham—Number of cows, 8; condition, good; feed, hay, stover, bran, ground corn and oats; stables, good and fairly clean; fair ventilation; yard, dry and clean; good drainage; water, well.

R. Gill—Number of cows, 20; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean; fair ventilation; yard, dry and clean; good drainage; water, well.

G. W. Count—Number of cows, 15; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean; fair ventilation; yard, dry and fairly clean; fair drainage; water, well.

E. Gleason—Number of cows, 10; condition, good; feed, hay, stover, bran, ground corn and oats; stables, fair and fairly clean; fair ventilation; yard, dry; fair drainage; water, spring.

C. Webster—Number of cows, 8; condition, good; feed, hay, stover, bran, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

E. Hudson—Number of cows, 12; condition, good; feed, hay, ensilage, bran, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; fair drainage; water, well.

J. Ulrich—Number of cows, 10; condition, good; feed, hay, stover, bran, ground corn and oats; stables, good and clean; fair ventilation; yard, dry and fairly clean; good drainage; water, well.

C. H. Hussey—Number of cows, 9; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean; fair ventilation; yard, dry and fairly clean; fair drainage; water, well.

F. W. Miller—Number of cows, 18; condition, good; feed, hay, stover, bran, ground corn and oats; stables, fairly good and clean; fair ventilation; yard, dry and clean; good drainage; water, well.

J. A. Johnson—Number of cows, 14; condition, good; feed, hay, ensilage, ground corn and oats; stables, good and fairly clean; fair ventilation; yard, dry and clean; good drainage; water, well.

R. B. Cowles—Number of cows, 22; condition, good; feed, hay, ensilage, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

E. Cowles—Number of cows, 14; condition, good; feed, hay, ensilage, bran, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

W. G. Simmonds—Number of cows. 8; condition, good; feed, hay, ensilage, bran, ground corn and oats; stables, fairly good and clean; fair ventilation; yard, dry and clean; good drainage; water, well.

J. Watkins—Number of cows, 18; condition, good; feed, hay, ensilage, bran, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

J. R. Raymon—Number of cows, 9; condition, good; feed, hay, stover, ground corn and oats; stables, fairly good and clean; fair ventilation; yard, dry and clean; good drainage; water, well.

C. M. Smith—Number of cows, 20; condition, good; feed, hay, ensilage, bran, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

F. A. Finley—Number of cows, 12; condition, good; feed, hay, ensilage, bran, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

G. W. Betterly—Number of cows, 12; condition, good; feed, hay, ensilage, bran, ground corn and oats; stables, fair but clean; fair ventilation; yard, dry and clean; good drainage; water, well.

J. Flagg—Number of cows, 8; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean; fair ventilation; yard, dry and fairly clean; good drainage; water, well.

J. Redford—Number of cows, 8; condition, good; feed, hay, stover, bran, ground corn and oats; stables, fairly good and clean; fair ventilation; yard, dry and clean; good drainage; water, well.

J. P. Reasoner—Number of cows, 18; condition, good; feed, hay, stover, bran, ground corn and oats; stables, good and fairly clean; fair ventilation; yard, dry and clean; good drainage; water, well.

J. M. Self—Number of cows, 32; condition, good; feed, hay, ensilage, stover, bran, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, spring.

J. W. Rolfe—Number of cows, 18; condition, good; feed, hay, stover, bran, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

B. W. Adams—Number of cows, 10; condition, good; feed, hay, ensilage, stover, bran, ground corn and oats; stables, good and fairly clean; good ventilation; yard, dry and clean; water, well.

E. Evans—Number of cows, 15; condition, good; feed, hay, ensilage, bran, ground corn and oats; stables, fairly good and clean; good ventilation; yard, dry and clean; good drainage; water, well.

Joslin & Davis—Number of cows, 10; condition, good; feed, hay, stover, ground corn and oats; stables, fairly good and clean; good ventilation; yard, dry; good drainage; water, well.

M. Young—Number of cows, 27; condition, good; feed, hay, ensilage, stover, bran, ground corn and oats; stables, good and clean; fair ventilation; yard dry and fairly clean; good drainage; water, well.

H. Haskins—Number of cows, 10; condition, good; feed, hay, ensilage, bran, ground corn and oats; stables, good and clean; fair ventilation; yard, dry and clean; good drainage; water, well.

January Inspection.

At Comstock:

J. W. Osborn—Number of cows, 24; condition, good and clean; feed, timothy, clover, oat hay, cornmeal and bran; stables, good and clean; ventilation, good; yard, fair; water, river; sells milk to Sanitary Milk Co.; has Durham grades.

M. B. Weston—Number of cows, 8; condition, good; feed, hay, stover, ground corn, oats, bran and turnips; stables, good and clean; ventilation, good; yard, dry and clean; water, well; sells milk to City Creamery; Jersey and Durham grades.

Mrs. James Pierce—Number of cows, 12; condition, good; feed, straw, ground corn and oats; stables, fair and fairly clean; ventilation, fair; yard, fair; water, well; sells to Sanitary Milk Co.; Jersey grades.

F. H. Blakeslee—Number of cows, 20; condition, good and clean; feed, hay, ensilage and bran; stables, fair but clean; ventilation, fair; yard, dry and fairly clean, with fair drainage; water, well; sells to Barbour's Creamery. Durham and Jersey grades.

W. A. Gleason—Number of cows, 8; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean; ventilation, fair; yard, fairly dry and clean; fair drainage; water, well; sells to Barbour's Creamery. Jersey and Durham grades.

J. C. Bailey—Number of cows, 8; condition, good and clean; feed, hay, stover, bran, ground corn and oats; stables, close and clean; ventilation poor; yard, fair and fairly clean with fair drainage; water, well; sells milk to Sanitary Milk Co. Jersey and Durham grades.

A. Knapp—Number of cows, 24; condition, good; feed, hay, stover and bran; stables, fair and clean; ventilation, fair; yard, dry and fairly clean with fair drainage; water, well; retails. Jersey grades.

At Jackson:

Marshall Johnson—Number of cows, 13; condition, fairly good and clean; feed, hay, stover, ground corn and oats; stables, good, clean and nicely whitewashed, ventilation, good; yard, fair; water, well; sells milk to J. J. Moore. Jersey and Durham grades.

Lawrence McLaughlin—Number of cows, 13; condition, good and clean; feed, hay, stover, ground rye and oats; stables, good, clean and whitewashed; ventilation, good; yard, dry and clean; water, well; sells to American Condensed Milk Co. Durham and Jersey grades.

John Franklin—Number of cows, 12; condition, good and clean; feed, hay, stover, bran and middlings; stable, good and clean, nicely whitewashed; ventilation, good; yard, dry and clean; water, well. Jersey and Durham grades.

M. Rowe—Number of cows, 6; condition, good; feed, hay, stover, cornmeal; stables, fair and fairly clean; ventilation, fair; yard, dry and clean; water, well; sells to American Condensed Milk Co. Durham and Jersey grades.

O. A. Manley—Number of cows, 8; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean; ventilation, good; yard, dry and clean; water,.well, sells to American Condensed Milk Co. Jersey and Durham grades.

E. A. Sager—Number of cows, 25; condition, good and clean; feed, hay, stover, ensilage, bran and glutenmeal; stables, good and clean, nicely whitewashed; ventilation, good; yard, dry and clean; water, well. Durham grades.

J. Buchfink—Number of cows, 14; condition, good; feed, hay, stover and corn; stables, fair and fairly clean; ventilation, good; yard, dry and clean; water, well. Jersey, Durham and Holstein grades.

A. Zautop—Number of cows, 45; condition, good and clean; feed, hay, stover, bran, ground rye and oats; stables, extra good and clean, clean floors, nicely whitewashed; ventilation, good; yard, dry and clean; water, spring. Jersey, Durham and Holstein grades.

Geo. Evans—Number of cows, 18; condition, good and clean; feed, hay, stover, ensilage, buckwheat middlings; stables, good, clean and whitewashed; ventilation, good; yard, dry and clean; water, well. Jersey and Durham grades.

Mrs. Emma Camp—Number of cows, 17; condition, good and clean; feed, ensilage, stover, bran, ground corn and oats; stables, good and clean, nicely whitewashed; ventilation, good; water, well; sells milk to Geo. Evans. Jersey grades.

Byron Pulver—Number of cows, 7; condition, good; feed, hay, stover, ground corn and oats; stables, good, clean and whitewashed; ventilation, good; yard, dry and clean; water, well. Jersey grades.

E. A. Bradford—Number of cows, 17; condition, good; feed, hay, stover and cornmeal; stables, good and fairly clean; ventilation, good; yard, dry and clean; water, well; sells milk to American Condensed Milk Co. Jersey grades.

F. R. Hitt—Number of cows, 13; condition, good; feed, hay, stover and cornmeal; stables, fairly good and clean; ventilation, good; yard, dry and clean; water, well; sells to B. O. Newell. Jersey and Durham grades.

M. Wait—Number of cows, 8; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean; ventilation, good; yard, dry and clean; water, well; sells to B. O. Newell. Jersey and Durham grades.

W. A. Worth—Number of cows, 12; condition, good; feed, hay, stover, cornmeal; stables, fair and fairly clean; ventilation, good; yard, dry and clean; water, well; sells to B. O. Newell. Durham, Jersey and Holstein grades.

B. O. Newell—Number of cows, 20; condition, good; feed, hay and ensilage; stables, good and clean; ventilation, good; yard, dry and clean; water, well; retails. Jersey grades.

S. Bean—Number of cows, 8; condition, good; feed, hay, stover and corn; stables fair and fairly clean; ventilation, fair; yard, fairly dry; water, well; sells to B. O. Newell. Durham and Jersey grades.

L. L. McCann—Number of cows, 9; condition, good and clean; feed, hay, stover, ground corn, oats and rye; stables, good, clean and whitewashed; ventilation, good; yard, dry and clean; water, well; sells milk to American Condensed Milk Co. Holstein, Durham and Jersey grades.

C. R. Fowler—Number of cows, 8; condition, good but not clean; feed, hay, stover and cornmeal; stables, good and fairly clean, whitewashed; ventilation, good; yard, dry and clean; water, well; sells to B. O. Newell. Durham and Jersey grades.

Elmer Bean—Number of cows, 8; condition, good; feed, hay, stover, ground wheat and corn; stables, fair and fairly clean; ventilation, fair; yard, dry and clean; water, well; sells to American Condensed Milk Co. Jersey and Durham grades.

Schumaker Estate, B. Foot, Mgr.—Number of cows, 26; condition, good and clean; feed, hay, stover, ground corn and oats; stables, fair but clean; ventilation, good; yard, dry and clean; water, well; sells to C. Salsbury. Durham and Jersey grades.

Walter Hall—Number of cows, 22; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean; ventilation, good; yard, dry and clean; water, well; sells milk to American Condensed Milk Co. Jersey, Durham and Holstein grades.

J. Harrington—Number of cows, 16; condition, good and clean; feed, hay, stover, gluten meal, ground corn and oats; stables, good and clean;

ventilation, good; yard, dry and clean; water, well; sells to American Condensed Milk Co. Jersey grades.

Byron Foote—Number of cows, 24; condition, good and clean; feed, hay, stover, ground corn and oats; stables, good and clean, nicely whitewashed; ventilation, good; yard, dry and clean; water, well; sells to J. Crippen. Durham and Jersey grades.

F. B. Harrington—Number of cows, 21; condition, good; feed, hay, stover, ground corn and oats; stables, fairly good and clean; ventilation, good; yard, dry and clean; water, well; sells to J. Crippen. Jersey and Durham grades.

W. M. Dodge—Number of cows, 17; condition, good; feed, hay, stover, ground corn and rye; stables, good and clean; ventilation, good; yard, dry and clean; water, well; sells to American Condensed Milk Co. Jersey and Durham grades.

Walter Purdy—Number of cows, 18; condition, good; feed, hay, stover, middlings and buckwheat bran; stables, fairly good and whitewashed; ventilation, good; yard, dry and clean; water, well. Jersey and Durham grades.

J. C. Burchards—Number of cows, 11; condition, good; feed, hay, stover and corn; stables, clean and whitewashed; ventilation, fair; yard, dry and clean; water, well; sells to H. Smith. Jersey and Durham grades.

Geo. Farcey—Number of cows, 5; condition, good; feed, hay, stover and cornmeal; stables, fairly good and clean; ventilation, good; yard, dry and clean; water, well; sells to H. Smith. Jersey and Durham grades.

S. Boldny—Number of cows, 10; condition, good; feed, hay, stover, ground corn and oats; stables, fairly good and clean; ventilation, good; yard, dry and clean; water, well; sells to American Condensed Milk Co. Jersey and Durham grades.

Holmes Smith—Number of cows, 15; condition, good; feed, hay and stover; stables, good, clean and whitewashed; ventilation, good; yard, dry and clean; water, well. Durham and Jersey grades.

H. F. Probert, proprietor; G. E. Sparks, superintendent—Number of cows, 57; condition, extra good and clean; feed, hay, stover, ensilage, malt-sprouts and cornmeal; stables, extra fine, cement floors, abundance of light; ventilation, improved system; yard, dry and clean; water, well; thoroughbred Jerseys, a fine herd.

Frank K. Hall—Number of cows, 22; condition, good and fairly clean; feed, hay, stover and ensilage; stables, fairly good and clean; ventilation, good; yard, fair; water, well. Jersey, Durham and Holstein grades.

John Robson—Number of cows, 22; condition, good; feed, hay, stover, cornmeal and glutenmeal; stables, good and clean, nicely whitewashed;

ventilation, good; yard, dry and clean; water, well. Jersey and Durham grades.

E. Elliott—Number of cows, 10; condition, good and clean; feed, hay, stover, bran and middlings; stables, fairly good, whitewashed and clean; ventilation, good; yard, dry and clean; water, well. Jersey and Durham grades.

C. H. Strand—Number of cows, 7; condition, good; feed, hay, stover, cornmeal and bran; stables, good and clean; ventilation, good; yard, dry and clean; water, well; sells milk to E. Elliott. Jersey and Durham grades.

Arthur Laverty—Number of cows, 22; condition, good and clean; feed, hay, stover, ensilage, ground rye and bran; stables, good and clean; nicely whitewashed; ventilation, good; yard, dry and clean; water, well. Jersey grades.

F. C. Sackrider—Number of cows, 18; condition, good; feed, hay, stover, ground corn, oats and bran; stables, good and fairly clean; ventilation, good; yard, dry and clean; water, well; sells milk to Emmett Rhims. Durham and Jersey grades.

M. B. Bradford—Number of cows, 24; condition, good; feed, hay, ensilage, gluten meal, wheat and buckwheat bran; stables, fairly good and clean, nicely whitewashed; ventilation, good; yard, fair; water, well; sells to American Condensed Milk Co. Jersey grades.

Emmet Rhims—Number of cows, 18; condition, good; feed, hay, stover and ensilage; stables, good and fairly clean; ventilation, good; yard, dry and clean; water, well. Jersey grades.

J. C. Palmer—Number of cows, 8; condition, good; feed, hay, stover and cornmeal; stables, fairly good; ventilation, good; yard, dry and clean; water, well; sells milk to American Condensed Milk Co. Jersey and Durham grades.

D. Yockum—Number of cows, 20; condition, fair; feed, hay, stover and cornmeal; stables, fairly good and whitewashed; ventilation, good; yard, dry and clean; water, well; sells milk to American Condensed Milk Co. Jersey, Durham and Holstein grades.

Mrs. Barbara Wood—Number of cows, 8; condition, good; feed, hay, stover, cornmeal and bran; stables, fairly good and whitewashed; ventilation, good; yard, dry; water, well. Jersey and Durham grades.

At Kalamazoo:

Geo. Drake—Number of cows, 32; condition, extra good and clean; feed, hay, stover, ground corn and oats; stables, good and clean; ventilation, good; yard, dry and clean, good drainage; water, well; sells milk to W. J. Kendall. Jersey grades, a fine herd.

Leon Gibbs—Number of cows, 14; condition, good and clean; feed, hay, stover, sugar beets, ground corn and oats; stables, good and clean; ventilation, good; yard, dry and clean, fair drainage; water, well; retails. Jersey and Hereford grades.

E. Stevens—Number of cows, 21; condition, good and clean; feed, hay, stover, sorgum, ground corn and oats; stables, good, improved in many particulars; ventilation, good; yard, dry and clean, good drainage; water, well; sells to Leon Gibbs. Durham grades.

H. E. Ralston—Number of cows, 20; condition, good and clean; feed, hay, stover, ground corn, oats and peas; stables, good and clean; ventilation, good; yard, dry and clean, good drainage; water, well; retails. Jersey and Durham grades.

M. Haas—Number of cows, 22; condition, good and clean; feed, hay, stover, ensilage and corn; stables, good and clean; ventilation, good; yard, dry and fairly clean, fair drainage; water, well; retails. Jersey, Durham, Holstein and Galloway grades.

J. M. Burtt—Number of cows, 12; condition, good; feed, hay, stover, ground wheat and bran; stables, good and clean; ventilation, good; yard, dry and clean; water, well; retails. Jersey grades.

W. E. Bussard—Number of cows, 24; condition, good; feed, hay, stover and bran; stables, fair but clean; ventilation, good; yard, dry and fairly clean; water, well and spring; sells to Barbour's Creamery. Jersey grades.

J. Doster—Number of cows, 16; condition, good; feed, hay, straw, ground corn and oats; stables, fair and fairly clean; ventilation, fair; yard, dry and clean; water, well and spring; sells to Barbour's Creamery. Jersey and Durham grades.

F. DeLano—Number of cows, 9; condition, good; feed, hay, stover, bran, ground corn and oats; stables, good and clean; ventilation, good; yard, dry and clean; water, well; sells to Sanitary Milk Co. Durham grades.

O. J. DeLano—Number of cows, 10; condition, good and clean; feed, hay, stover, ground corn and oats; stables, good and clean; ventilation, good; yard, dry and clean, good drainage; water, well; sells to Barbour's Creamery. Durham grades.

N. H. DeLano—Number of cows, 7; condition, good and clean; feed, hay, stover, ground corn and oats; stables, good and clean; ventilation, good; yard, dry and clean, good drainage; water, well; sells to Barbour's Creamery. Durham grades.

C. Webster—Number of cows, 11; condition, good; feed, hay, stover, ground corn and oats; stables, fair, but clean; ventilation, fair; yard, dry and clean; water, well; sells to Sanitary Milk Co. Durham grades.

G. A. Lewis—Number of cows, 12; condition, good and clean; feed, hay, stover, ground corn and oats; stables, good and clean; ventilation, good; stables, dry and clean, good drainage; water, well; sells to Sanitary Milk Co. Durham grades.

C. Thayer—Number of cows, 7; condition, good; feed, hay, stover, ground corn and oats; stables, fair and clean; ventilation, fair; yard, fairly dry and clean; water, well; sells milk to Sanitary Milk Co. Jersey and Durham grades.

James Vane—Number of cows, 9; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean; ventilation, good; yard, dry and clean; good drainage; water, well and spring; sells milk to Sanitary Milk Co.

G. W. Cranmer—Number of cows, 27; condition, good; feed, hay, stover, cornmeal and bran; stables, fair but clean; ventilation, poor; yard, fairly dry and clean; water, river; sells to Olmstead. Jersey and Durham grades.

L. M. Gilbert—Number of cows, 42; condition, fair; feed, stover, corn, and beet-pulp; stables, good and clean; ventilation, fair; yard, dry and fairly clean; sells to City Creamery.

A. L. Burroughs—Number of cows, 15; condition, good and clean; feed, hay, silage, ground corn and oats; stables, good and clean; ventilation, good; yard, dry and clean, good drainage; water, well. Durham grades.

G. E. Burroughs—Number of cows, 14; condition, good; feed, hay, ensilage, bran, ground corn and oats; stables, good and clean; ventilation, good; yard, dry and clean, good drainage; water, well. Durham grades.

J. F. Schlobohm—Number of cows, 9; condition, good; feed, hay, stover, ground corn, oats and bran; stables, good and clean; ventilation, good; yard, dry and clean, good drainage; water, well. Durham grades.

M. J. O'Neal—Number of cows, 15; condition, good and clean; feed, hay, stover, cornmeal and bran; stables, good and clean; ventilation, good; yard, dry and clean, fair drainage; water, well. Durham grades.

Jay Gibbs—Number of cows, 19; condition, good and clean; feed, hay, stover, bran, ground corn and oats; stables, good and clean; ventilation, good; yard, dry and clean, good drainage; water, well. Jersey and Durham grades.

H. E. Smith—Number of cows, 15; condition, good and clean; feed, hay, stover, bran, ground corn and oats; stables, good and clean; ventilation, good; yard, dry and clean, fair drainage; water, well. Durham grades.

W. S. Foster—Number of cows, 20; condition, good and clean; feed, hay, stover, bran and cornmeal; stables, good and clean; ventilation, fair; yard, dry and clean; water, spring. Durham grades.

C. Patterson—Number of cows, 15; condition, good; feed, hay, stover, bran, ground corn and oats; stables, good and clean; ventilation, fair; yard, dry and clean, fair drainage; water, well. Jersey grades.

John Farley—Number of cows. 8; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean; ventilation, fair; yard, dry and clean, good drainage; water, spring; sells to Olmstead. Jersey and Durham grades.

H. H. Mulder—Number of cows, 30; condition, good and clean; feed, hay, stover, bran, ground corn and oats; stables, good and clean; ventilation, good; yard, dry and clean, good drainage; water, well. Durham and Jersey grades.

A. Snow—Number of cows, 24; condition, good; feed, hay, straw, ground corn and oats; stables, good and clean; ventilation, good; yard, dry and clean, good drainage; water, well. Jersey and Durham grades.

Barrett Bros.—Number of cows, 31; condition, good; feed, hay, stover, ensilage, ground corn and oats; stables, good and clean; ventilation, good; yard, dry and fairly clean, fair drainage; water, well; retails. Jersey and Durham grades.

W. B. Vosburg—Number of cows. 8; condition, good and clean; feed, hay, stover, bran and gluten; stables, good and clean; ventilation, good; yard, dry and clean, good drainage; water, well. Jersey grades.

E. W. Vosburg—Number of cows, 10; condition, good and clean; feed, hay, stover, bran and gluten; stables, good and clean; ventilation, good; yard, dry and clean, fair drainage; water, well. Jersey grades.

R. C. Balch—Number of cows, 22; condition, good and clean; feed, hay, stover, ensilage and bran; stables, new, clean, cement floors, and a fine system of ventilation; yard, fairly dry and clean; water, well; wholesales. Durham and Jersey grades.

Cutler Bros.—Number of cows, 16; condition, good; feed, hay, stover bran, ground corn, oats and rye; stables, good and clean; ventilation, fair; yard, fairly dry and clean; water, well and spring; retails. Jersey and Durham grades.

F. S. Nichols—Number of cows, 10; condition, good; feed, hay, stover, ground corn and oats; stables good and clean; ventilation, good; yard, fairly dry and clean; water, well; retails. Jersey and Durham grades.

John Van der Vene—Number of cows, 13; condition, good; feed, hay, stover, ground corn and oats; stables, fair and fairly clean; ventilation, fair; yard, fairly dry and clean; water, well. Jersey and Durham grades.

Wm. Crooks—Number of cows, 9; condition, good; feed, hay, stover, cornmeal, turnips and sugar beets; stables, good and clean; ventilation, good; yard, dry and clean; water, well; sells to City Creamery. Jersey grades.

F. Johnson—Number of cows, 8; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean; ventilation, fair; yard, fairly dry and clean, fair drainage; water, well. Durham and Jersey grades.

V. J. Gilbert—Number of cows, 15; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean; ventilation, good; yard, dry and fairly clean; water, well. Jersey and Durham grades.

W. A. Kingsbury—Number of cows, 11; condition, good; feed, hay, stover, millet and bran; stables, good and clean; ventilation, good; yard, fairly dry and clean, fair drainage; water, spring. Jersey and Durham grades.

American Condensed Milk Co., Ltd., Jackson, Mich. F. B. Crege, manager. Outfit consists of two 500 gallons receiving vats, one 300 gallon churn, one 40 butter tester, one bottle washer, one steam sterilizer, one 40-pound butter print, two 200 horse-power boilers, one 50 horse-power engine, two pasteurizers. Condition of building new and very fine, sanitary in every particular; of apparatus and surroundings, excellent and very sanitary. Average test of milk 4.0, milk retailed yearly, 1,825,000 pounds; milk used in butter making, 1,314,500 pounds; milk shipped from city as condensed milk, 15 822,750 pounds. Eight new, clean and neat retail wagons are used. A complete plant in every particular.

February Inspection.

At Ann Arbor:

J. G. Rash—Number of cows, 12; condition, good; feed, hay, stover, ground corn, oats and gluten; stables, good, good light, good ventilation; yard, fair, fairly clean; water, well; sells to Perkins. Durham and Jersey grades.

N. Woodmansee—Number of cows, 40; condition, good and clean; feed, hay, stover, bran, ground corn and oats; stables, good and clean; good light; good ventilation; yard, dry and clean; good drainage; water, well; retails. Jersey and Durham grades.

P. Tuomey—Number of cows, 23; condition, good and clean; feed, hay, stover, ground oats and bran; stables, good and clean; light, fair; yard, dry and clean; good drainage; water, well; retails. Jersey and Durham grades.

Washtenaw Co. Farm—Number of cows, 10; condition, good and clean; feed, hay, stover, ground corn and oats; stables, good and clean; light, fair; ventilation, good; yard, dry and clean; fair drainage, water, well; milk used in county house. Jersey and Durham grades.

G. S. Howe—Number of cows, 11; condition, good and clean; feed, hay, stover, ground corn and oats; stables, good and clean; good light; ventilation, good; yard, dry and clean; good drainage; water, well; retails; uses aerator; milkroom, neat and clean. Jerseys and Jersey grades.

Towers Farm Creamery—Number of cows, 102; condition, good and clean; feed, hay, ensilage, oatmeal, bran and gluten; stables, extra good and clean, cement floors; good light; ventilation, good; yard, dry and clean; good drainage; water, well; ships to Towers Wayne County Creamery. Jerseys and Jersey grades.

E. Basch—Number of cows, 43; condition, good and clean; feed, hay, stover, ground corn and oats, bran and gluten; stables, good and clean; good light; ventilation, good; yard, dry and clean; good drainage; water, well; retails. Jersey and Durham grades.

J. O'Hara—Number of cows, 29; condition good and clean; feed, hay, stover, ensilage, gluten, ground corn, oats and wheat; stables, good and clean; good light; good ventilation; yard, dry and clean; good drainage; water, well; retails. Jersey and Durham grades.

T. Lerg—Number of cows, 15; condition, good and clean; feed, hay, stover, millet, ground corn and oats; stables, good and clean; good light; good ventilation; yard, dry and clean; good drainage; water, well; retails. Jersey and Durham grades.

J. Chalmers—Number of cows, 22; condition, good and clean; feed, hay, stover, gluten and cotton-seed meal; stables, good and clean; good drainage; water, well; retails. Thoroughbred Jerseys.

C. Mills—Number of cows, 23; condition, good; feed, hay, stover, cornmeal, bran and gluten; stables, good and clean; good light; good ventilation; yard, dry and clean; good drainage; water, well; retails. Durham and Jersey grades.

Mr. Price—Number of cows, 25; condition, good and clean; feed, hay, stover, ground corn, oats and bran; stables, good and clean; good light; good ventilation; yard, dry and clean; good drainage; water, well; retails. Jersey, Guernsey and Durham grades.

G. Hanes—Number of cows, 23; condition, good and clean; feed, hay, stover, cornmeal and bran; stables, good and clean; good light; ventilation, good; yard, dry and clean; good drainage; water, well; retails. Milk house neat and clean. Jersey and Durham grades.

G. W. McCalla—Number of cows, 15; condition, good and clean; feed, hay, stover, cornmeal and bran; stables, good and clean; good light; ventilation, good; yard, dry and clean; good drainage; water, well; retails. Jerseys and Jersey grades.

Mrs. Brown—Number of cows, 18; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean; fair light; fair ventilation; yard, dry and clean; good drainage; water, well; retails. Jersey and Durham grades.

H. Willits—Number of cows, 20; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean; good ventilation; yard, dry and clean; water, well; retails. Durham, Jersey and Holstein grades.

W. M. R. Popkins—Number of cows, 22; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean; good light; yard, dry and clean, good drainage; water, well; retails. Jersey and Durham grades.

E. A. Madison—Number of cows, 22; condition, good; feed, hay, stover, corn meal and gluten; stables, good and clean; good light; fair ventilation; yard, fair, fairly clean; water, well; sells to Woodmansey. Jersey and Durham grades.

T. Rice—Number of cows, 16; condition, good and clean; feed, hay, stover, ground corn and oats; stables, fair; fair light; fair ventilation; yard, dry and clean; water, well and spring; retails. Durham grades.

W. Lathrop—Number of cows, 12; condition, good; feed, hay, stover, cornmeal; stables, good; good light and ventilation; yard, dry and clean; water, well; retails. Jersey and Durham grades.

F. Chandler—No. of cows, 32; condition, good; feed, hay, ensilage, ground corn and oats; stables, good, good light; good ventilation; yard, dry and clean; water, well; retails, milk house clean and neat. Jersey grades.

H. W. Ryer—Number of cows, 17; condition, extra good; feed, hay, stover, ground corn and oats and oil meal; stables, good; good light; good ventilation; yard, dry and clean; water, well; retails. Durham grades.

T. Tickner—Number of cows, 16; condition, good; feed, hay, grain, cornmeal and oats; stables, good, good light; good ventilation; yard, dry and clean; water, well; retails. Jersey grades.

A. D. Butt—Number of cows, 8; condition, fair; feed, hay, stover, ground corn and oats; stables, fair, fair light and ventilation; yard, fair; water, well; retails. Durham and Jersey grades.

At Chelsea:

J. R. Gates—Number of cows, 34; condition, good and clean; feed, hay, stover, ground corn, oats and bran; stables, good and clean, cement floors, double stalls, chain ties, good light, nicely arranged with good ventilation; yard, dry and clean, good drainage; water, well; sells to Chelsea Creamery. Jersey and Durham grades.

Geo. Ward—Number of cows, 12; condition, good and clean; feed, hay, stover, ground corn, oats and bran; stables, good and clean; light, fair; good ventilation; yard, dry and clean, good drainage; water, well; retails. Jersey grades.

E. D. Chipman—Number of cows, 13; condition, good and fairly clean; feed, hay, stover, ground corn and oats; stables, fair but clean; light, poor; yard, large amount of manure accumulated but good drainage; water, well and spring; sells to the Chelsea Creamery. Durham and Jersey grades.

H. E. Fletcher—Number of cows, 7; condition, good and clean; feed, hay, stover and corn; stables, temporary but clean; light, fair; fair ventilaton; yard, dry and clean; good drainage; water, well; sells to Chelsea Creamery. Durham grades.

H. Pierce—Number of cows, 7; condition, good and clean; feed, hay, stover and corn; stables, temporary; close but clean; light poor; poor ventilation; yard, fairly dry and clean; fair drainage; water, well; sells to Chelsea Creamery. Hereford grades.

R. P. Chase—Number of cows, 10; condition, good and clean; feed, hay, stover, ground corn and oats; stables, good and clean; light, poor; fair ventilation; yard, dry and fairly clean; fair drainage; water, well; sells to Chelsea Creamery. Jersey grades.

F. Sager—Number of cows, 9; condition, good and clean; feed, hay stover, ground corn and oats; stables, close but clean; light, poor; fair ventilation; yard, fairly dry and clean; fair drainage; water, well; sells to Chelsea Creamery. Durham and Hereford grades.

H. Pierce—Number of cows, 8; condition, good and fairly clean; feed, hay, stover, cornmeal and oats; stables, good and fairly clean; fair light; fair ventilation; yard, dry and clean, fair drainage; water, well; makes butter. Durham grades.

J. P. Miller—Number of cows, 7; condition, fair, not clean; feed, hay, stover, ground corn and oats; stables, good but manure allowed to accumulate in stables, fair light; fair ventilation; yard, dry and fairly clean; fair drainage; water, well; sells to Chelsea Creamery. Jersey and Durham grades.

G. T. English—Number of cows, 7; condition, fair and clean; feed, hay, stover, ground corn and oats; stables and sheep pen combined, poor and dirty, open and cold; yard, dry and fairly clean, fair drainage; water, well; sells to Chelsea Creamery. Jersey and Hereford grades.

C. Sweetland—Number of cows, 12; condition, fair, not clean; feed, hay, stover, roots, bran and middlings; stables, good and clean, good light, good ventilation; yard, dry and clean, good drainage; water, well; sells to Chelsea creamery. Jerseys and Jersey grades.

At Dexter:

J. Hoey—Number of cows, 7; condition, good and clean; feed, hay, stover, ground corn and oats; stables, good and clean, good light and ventilation; yard, dry and fairly clean, good drainage; water, well; sells to Dexter Creamery. Durham grades.

J. Stanton—Number of cows, 6; condition, good and clean; feed, hay, stover, ground corn and oats; stables, good and clean; light, good; good ventilation; yard, dry and fairly clean; fair drainage; water, well; sells to Dexter Creamery. Durham grades.

C. Rogers—Number of cows, 13; condition, good and clean; feed, hay, stover, ground corn and oats; stables, good and clean; good light, fine in every department; good ventilation; yard, good and clean, good drainage; water, well; sells to Dexter Creamery. Jersey and Durham grades.

C. Van Ryper—Number of cows, 7; condition, good and clean; feed, hay, stover, ground corn and oats; stables, good and clean, good light and ventilation; yard, dry and fairly clean, good drainage; water, well; sells to Dexter Creamery. Durham grades.

J. McGinnis—Number of cows, 6; condition, good and clean; feed, hay, stover, ground corn, oats and bran; stables, fair and fairly clean; poor light and ventilation; yard, dry and fairly clean, good drainage; water, well and spring; sells to Dexter Creamery. Red Pole grades.

E. White—Number of cows, 8; condition, good and clean; feed, hay, stover, ground corn and oats; stables, fair, but clean; light, fair; poor ventilation; yard, dry and clean, good drainage; water, well; retails. Durham and Holstein grades.

G. W. Coe—Number of cows, 28; condition, good and clean; feed, hay, stover, ensilage and cornmeal; stables, good and clean, light, good; cement floor, moveable mangers, good ventilation; yard, dry and fairly clean; water, well; sells to Dexter Creamery. Jersey and Durham grades.

At Jackson:

A. H. Carr—Number of cows, 6; condition, good and clean; feed, hay, stover, ground corn and buckwheat middlings; stables, fairly good, good ventilation; yard, dry and clean; water, well; sells to Frank Nichols. Jersey and Durham grades.

S. E. Chappell—Number of cows, 8; condition, good and clean; feed, hay, stover, ground cornmeal and bran; stables, good and clean; good ventilation; yard, dry and clean; water, well; sells to Frank Nichols. Jersey and Durham grades.

R. Barker—Number of cows, 6; condition, good; feed, hay, stover, ground corn; stables, good; good ventilation; yard, dry and clean; water, well; sells to Frank Nichols. Jersey grades.

J. Donnelly—Number of cows, 8; condition, good; feed, hay, stover, ground corn and oats; stables, good; fair ventilation; yard, dry and clean; water, well; sells to Frank Nichols. Jersey, Durham and Holstein grades.

E. Chappell—Number of cows, 5; condition, good and clean; feed, hay, stover, ground corn and oats; stables, good and fairly clean, good ventilation; yard, dry and clean, good drainage; water, well; sells to Frank Nichols. Jersey and Durham grades.

Joseph Chanton—Number of cows, 6; condition, good and clean; feed, clover, hay, cornstalks, corn and oats; stables, good and clean; good light and ventilation; yard, dry and clean, good drainage; water, well; sells to J. S. Sanes. Jersey and Durham grades.

Wm. Blake—Number of cows, 16; condition, good and clean; feeed, hay, stover, bran and middlings; stables, good and clean; good light and ventilation; yard, dry and clean; good drainage; water, well; retails. Jersey and Durham grades.

Timmons Bros.—Number of cows, 22; condition, good, fairly clean; feed, hay, stover, bean pods and bran; stables, good, good ventilation; yard, dry and clean; water, well; retails. Holstein, Jersey and Durham grades.

George A. Sager—Number of cows, 20; condition, good and clean; feed, hay, ensilage, ground oats, rye and peas; stables, good and clean; good light and ventilation; yard, dry and clean, good drainage; water, well; retails. Jersey, Durham and Holstein grades.

B. L. Jewell—Number of cows, 36; condition, good and clean; feed, hay, stover, barley sprouts, ground oats and rye; stables, good and clean, good light; yard, dry and clean, good drainage; water, spring; sells to Michigan State Prison. Durham and Holstein grades.

G. Shear—Number of cows, 32; condition, good and clean; feed, hay, stover and bran; stables, fairly good and clean, fair light and ventilation; yard, dry and clean, good drainage; water, well; sells to American Condensing Co. Jersey, Durham and Holstein grades.

J. L. Brockie—Number of cows, 8; condition, good and clean; feed, hay, stover, ground corn and oats; stables, good and clean, good light and ventilation; yard, dry and clean, good drainage; water, well; retails. Jersey and Durham grades.

J. W. Hicks—Number of cows, 8; condition, good and fairly clean; feed, hay, stover, bran and middlings, ground corn, oats and rye; stables, fairly clean, fair light; good ventilation; yard, dry and clean, good drainage; water, well; sells to J. L. Brockie. Jersey and Durham grades.

W. D. Higdorn—Number of cows, 30; condition, good and clean; feed, hay, stover, bran and middlings, ground corn and rye; stables, fairly good and clean, good light and ventilation; yard, dry and clean, good drainage; water, well; retails. Jersey grades.

J. S. Sanes—Number of cows, 26; condition, good and clean; feed, hay, stover, barley sprouts, ground rye and oats; stables, good and clean, nicely whitewashed, good light and ventilation; yard, dry and clean, good drainage; water, well; retails. Jersey and Durham grades.

W. Thorp—Number of cows, 34; condition, good and clean; feed, hay, ensilage, buckwheat bran and middlings; stables, good and fairly clean, fair light, good ventilation; yard, dry and clean; water, well; retails. Jersey and Durham grades.

A. Ames—Number of cows, 11; condition, good and clean; feed, hay, stover, ground corn and oats; stables, good and clean; good light, good ventilation; yard, dry and clean, good drainage; water, well; retails. Jersey and Durham grades.

F. Lowden—Number of cows, 20; condition, good and clean; feed, hay, stover and bran; stables, fair but clean, fair light, rebuilding a fine stable; yard, dry and clean, fair drainage; water, well; sells to Michigan State Prison. Jersey, Durham, Holstein and Ayrshire grades.

M. O. Leasy—Number of cows, 14; condition, good and clean; feed, hay, stover and bran; stables, good and fairly clean, fair light and ventilation; yard, dry and fairly clean, fair drainage; water, well; sells to Darling. Jersey and Durham grades.

E. C. Baker—Number of cows, 7; condition, good and clean; feed, hay, stover, ground corn and oats; stables, good and clean, good light and ventilation; yard, dry and clean, good drainage; water, well; sells to Darling. Jersey and Durham grades.

J. Blakeley—Number of cows, 20; condition, good and fairly clean; feed, hay, stover, ground corn and oats; stables, good and clean, cement floors, good light and ventilation; yard, dry and clean, good drainage; water, well; retails. Jersey and Durham grades.

W. Perkins—Number of cows, 5; condition, good and clean; feed, hay, stover, cornmeal and gluten; stables, fair but clean, fair light and ventilation; yard, dry and clean, good drainage; water, well; retails. Jersey and Durham grades.

J. Blake—Number of cows, 30; condition, good and clean; feed, hay, stover, bran and gluten; stables, good and clean, good light and ventilation; yard, dry and clean, good drainage; water, well; retails. Jersey, Durham and Holstein grades.

C. Wylie—Number of cows, 12; condition, good and clean; feed, hay and stover; stables, poor; light and ventilation, poor; yard, dry, fairly clean; water, well; retails. Jersey and Durham grades.

J. Randall—Number of cows, 5; condition, good and clean; feed, hay, stover, bran and buckwheat middlings; stables, fair and clean; light, good, good ventilation; yard, dry and clean, good drainage; water, well; sells to Z. Manchester. Jersey and Durham grades.

E. Miller—Number of cows, 6; condition, good and clean; feed, hay, stover, ground corn and bran; stables, good and clean, good light and ventilation; yard, dry and clean, good drainage; water, well; sells to Z. Manchester. Jersey and Durham grades.

O. H. Kellogg—Number of cows, 5; condition, good and clean; feed, hay, stover and corn; stables, good and clean, good light and ventilation; yard, dry and clean, good drainage; water, well; retails. Jersey and Durham grades.

J. Harrison—Number of cows, 8; condition, good and clean; feed, hay, stover, bran, ground corn and oats; stables, poor and dirty; poor ventilation; yard, poor; water, well. Jersey and Durham grades.

F. Grootsworth—Number of cows, 7; condition, good and clean; feed, hay, stover, bean pods, ground corn and oats; stables, fairly good and clean; light, fair; fair ventilation; yard, dry and clean, good drainage; water, well; sells to Frank Nichols. Jersey and Durham grades.

S. P. Williams—Number of cows, 15; condition, good and clean; feed, hay, stover, ground corn and oats; stables, good and clean; fair light and ventilation; yard, dry and clean, good drainage; water, well; sells to J. S. Butterfield. Holstein and Jersey grades.

At Kalamazoo:

P. Campbell—Number of cows, 18; condition, good and clean; feed, hay, stover, ground corn, oats and bran; stables, good and clean, with fair light, ventilation good; yard, dry and clean, good drainage; water, well. Durham grades.

Mrs. W. F. Stoddard—Number of cows, 21; condition, good and clean; feed, hay, stover, ground corn and oats; stables, good and fairly clean; fair light, good ventilation; yard, dry and clean, good drainage; water, well and river; retails. Jersey and Durham grades.

L. C. Kendall—Number of cows, 14; condition, good; feed, hay, cornstalks, ground corn and oats; stables, fair and fairly clean, fair light, fair ventilation; yard, dry and fairly clean, good drainage; water, well; sells to G. A. Cavenaugh. Jersey and Durham grades.

J. Wait—Number of cows, 10; condition, good and clean; feed, hay, stover, ground corn, oats and bran; stables, fairly good but clean, fair light, good ventilation; yard, fair with fair drainage; water, well; sells to G. A. Cavenaugh. Jersey and Durham grades.

I. Buse—Number of cows, 14; condition, good and clean; feed, hay, stover, ground corn and oats; stables, good and clean, with fair light, good ventilation; yard, dry and clean, good drainage; water, well; sells to Vasler. Jersey and Durham grades.

B. Huggett—Number of cows, 9; condition, good and fairly clean; feed, hay, stover, ground corn, oats and bran; stables, good and clean, light fair, good ventilation; yard, dry and clean, good drainage; water, well; wholesales. Jersey and Durham grades.

March Inspection.

At Charlotte:

A. Snyder—Number of cows, 6; condition, good; feed, hay, bran and middlings; stables, fair and fairly clean, fair light, fair ventilation; yard, dry and clean; water, well; retails; test, 3.8 per cent; Jersey grades.

C. O. Leary—Number of cows, 30; condition, good; feed, hay, ground corn and oats; stables, fair and fairly clean, fair light, ventilation fair; yard, fairly dry and clean; test. 4.0 per cent; water, well; sells milk to T. C. Bowers; Jersey grades.

At Dearborn:

W. Blake—Number of cows, 12; condition, good and clean; feed, hay, stover, bran and middlings; stables, good and clean, good light; yard, fairly dry and clean, fair drainage; water, well; sells to Detroit Creamery Co., Dearborn Station; Durham and Jersey grades.

J. Crowley—Number of cows, 8; condition, good; feed, hay, stover, ground corn and oats; stables, fair and fairly clean, fair light, ventilation fair; yard, rather wet, but fairly clean, fair drainage; water, well; sells to Detroit Creamery Co., Dearborn Station; Holstein and Durham grades.

J. Kelley—Number of cows, 16; condition, good and clean; feed, hay, stover, bran and middlings; stables, good and clean, good light, ventilation good; yard, fairly dry and clean, fair drainage; water, well; sells to Detroit Creamery Co., Dearborn Station; Durham and Holstein grades.

C. Thiel—Number of cows, 8; condition, good; feed, hay, stover, ground corn, oats and wheat; stables, good and clean, fair light, ventilation fair; yard, fair and fairly clean, fair drainage; water, well; sells to Detroit Creamery Co., Dearborn Station; Holstein and Durham grades.

F. Nealand—Number of cows, 8; condition, good; feed, hay, stover, ground corn, oats and wheat; stables, good and clean, good light, ventilation fair; yard, fairly dry and clean, fair drainage; water, well; sells to Detroit Creamery Co., Dearborn Station; Holstein and Durham grades.

C. Ryken—Number of cows, 18; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean, fair light, ventilation fair; yard, fair and fairly clean, fair drainage; water, well; sells to Detroit Creamery Co., Dearborn Station; Holstein and Durham grades.

N. Asenmacher—Number of cows, 80; condition, good; feed, hay, stover, ground oats, wheat and barley sprouts; stables, fair and fairly clean, fair light, ventilation fair; yard, fairly dry and clean, fair drainage; water, well; sells to Detroit Creamery Co., Dearborn Station; Holstein, Durham and Jersey grades.

H. Strater—Number of cows, 9; condition, good; feed, hay, stover, ground corn and oats; stables, fair and fairly clean, fair light, ventilation fair; yard, fairly dry and clean, fair drainage; water, well; sells to Detroit Creamery Co., Dearborn Station; Holstein and Durham grades.

At Detroit:

L. C. Nembee—Number of cows, 15; condition, poor; feed, cut hay and slops; stables, wet and close, no light, no ventilation; retails; Durham grades.

J. Trumbell—Number of cows, 8; condition, fair; feed, hay, brewers' grains; stables, wet but clean, no light or ventilation; water, slops; retails; Durham grades.

At Inkster:

E. Schultz—Number of cows, 11; condition, good; feed, hay, stover, bran, ground corn and oats; stables, good and clean, good light, ventilation fair; yard, fair and fairly clean, fair drainage; water, well; sells to Detroit Creamery Co.; Holstein and Durham grades.

M. Harrison—Number of cows, 10; condition. good; feed, hay, stover, bran, ground corn and oats; stables, extra good and clean, good light, ventilation good; yard, fairly dry and clean, fair drainage; water, well; sells to Detroit Creamery Co.

L. Cook—Number of cows, 10; condition, good; feed, hay, stover, bran, ground corn and oats; stables, good and clean, good light, ventilation good; yard, dry and clean; fair drainage; water, well; sells to Detroit Creamery Co.; Holstein and Durham grades.

E. Bird—Number of cows, 18; condition, good and clean; feed, hay, stover, bran, ground corn and oats; stables, good and clean, good light, ventilation good; yard, dry and clean, fair drainage; water, well; sells to Detroit Creamery Co.; Durham and Holstein grades.

F. VanLastein—Number of cows, 10; condition, good and clean; feed, hay, bran, ground corn and oats; stables, good and clean, good light, ventilation good; yard, fair and fairly clean, fair drainage; water, well; sells to Detroit Creamery Co.; Holstein and Durham grades.

W. Bird—Number of cows, 14; condition, good; feed, hay, stover bran, ground corn and oats; stables, good and clean, good light; ventilation fair; yard, fair and fairly clean. fair drainage; water, well; sells to Detroit Creamery Co.; Durham and Holstein grades.

A. Underwood—Number of cows, 20; condition, good and clean; feed, hay, stover, bran, ground corn and oats; stables, good and clean, light fair, ventilation fair; yard, fairly dry and clean, fair drainage; water, well; sells to Detroit Creamery Co.; Durham grades.

At Plymouth:

W. Farley—Number of cows, 9; condition, good and clean; feed, hay, stover, ground corn and oats; stables. good and clean, light fair, ventilation fair; yard, fairly good and clean, fair drainage; water, well; sells to Warner's Cheese Factory; Durham and Holstein grades.

C. Wagonshute—Number of cows, 14; condition, fairly good; feed, hay, stover, bran, ground corn and oats; stables, good and fairly clean, light fair, ventilation fair; yard, fairly dry and clean, fair drainage; water, well; sells to Warner's Cheese Factory; Durham and Holstein grades.

O. Melo—Number of cows, 10; condition, good; feed. hay, stover, bran, ground corn and oats; stables, fair and fairly clean, light fair, ventilation fair; yard. fair with fair drainage; water, well; sells to Warner's Cheese Factory; Durham grades.

C. Wolfe—Number of cows, 12; condition, good; feed, hay, stover, bran, ground corn and oats; stables, good and clean, light fair, fair ventilation; yard, fairly dry and clean; water, well; sells to Warner's Cheese Factory; Durham and Holstein grades.

W. Eckler—Number of cows, 9; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean, light fair, ventilation fair; yard, fairly dry and clean, fair drainage; water, well; sells to Warner's Cheese Factory; Durham grades.

A. Stevens—Number of cows, 15; condition, good; feed, hay, stover, bran, ground corn and oats; stables, good and clean, good light, fair ventilation; yard, dry and clean, good drainage; water, well; sells to Plymouth Creamery; Durham grades.

W. Henry—Number of cows, 10; condition, good and clean; feed, hay, stover, bran, ground corn and oats; stables, good and clean, good light, good ventilation; yard, dry and clean, good drainage; water, well; sells to Plymouth Creamery; Durham and Jersey grades.

W. A. Eckels—Number of cows, 23; condition, good; feed, hay, stover, bran, ground corn and oats; stables, good and clean, fair light, ventilation fair; yard, dry and clean, good drainage; water, well; sells to Plymouth Creamery; Durham and Holstein grades.

D. P. Eckels—Number of cows, 21; condition, good; feed, hay, stover, bran, ground corn and oats; stables, good and clean, good light, fair ventilation; yard, dry and fairly clean, good drainage; water, well; sells to Plymouth Creamery; Durham and Holstein grades.

D. D. Allen—Number of cows, 10; condition, good and clean; feed, hay, stover, bran, ground corn and oats; stables, good and clean, light good, ventilation fair; water, well; sells to Plymouth Creamery; Durham grades.

J. W. Cleaver—Number of cows, 18; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean, light fair, fair ventilation; yard, dry and clean, good drainage; water, well; sells to Plymouth Creamery; Durham and Holstein grades.

At Redford:

W. Dudley—Number of cows, 10; condition, fair; feed, hay, stover, corn and brewers' sprouts; stables, fair and fairly clean, light fair, ventilation fair; yard, poor, poor drainage; water, well; sells to Redford Milk Station; Jersey and Durham grades.

A. Ringanlot—Number of cows, 5; condition, good; feed, hay, stover, ground corn, wheat and oats; stables, good and fairly clean, fair light, fair ventilation; yard, fair and fairly clean, fair drainage; water, well; sells to Redford Milk Station; Holstein grades.

T. H. Johnson—Number of cows, 18; condition, fair; feed, hay, stover and corn; stables, fair, but clean, fair light, ventilation fair; yard, fairly dry and clean, fair drainage; water, well; sells to Redford Milk Station; Holstein grades.

A. Marrell—Number of cows, 6; condition, good; feed, hay, stover, bran, ground corn and oats; stables, fair but clean, fair light, ventilation fair; yard, fairly dry and clean, fair drainage; water, well; sells to Redford Milk Station; Holstein and Durham grades.

G. Jinks—Number of cows, 6; condition, good; feed, hay, stover, ground corn and oats; stables, fair and fairly clean, fair light, ventilation fair; yard, fairly dry and clean, fair drainage; water, well; sells to Redford Milk Station; Durham and Holstein grades.

J. Houghton—Number of cows, 12; condition, fair; feed, hay, stover, corn and brewers' sprouts; stables, fair but clean, fair light, ventilation fair; yard, fairly dry and clean, fair drainage; water, well; sells to Redford Milk Station; Durham, Holstein and Jersey grades.

C. F. Langdon—Number of cows, 12; condition, good; feed, hay, stover, and corn; stables, good and clean, fair light, ventilation fair; yard, fairly dry and clean, fair drainage; water, well; sells to Redford Milk Station; Durham grades.

H. Pierce—Number of cows, 20; condition, good; feed, hay, stover, corn and brewers' grains; stables, good and clean, light fair, fair ventilation; yard, fairly dry and clean, fair drainage; water, well; sells to Redford Milk Station; Holstein and Durham grades.

F. Hock—Number of cows, 10; condition, good; feed, hay, stover, bran and cornmeal; stables, good and clean, fair light, fair ventilation; yard, fairly dry and clean, fair drainage; water, well; sells to Redford Milk Station; Durham grades.

W. Appling—Number of cows, 7; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean, light fair, fair ventilation; yard, fair with fair drainage; water, well; sells to Redford Milk Station; Durham grades.

T. Gardnes—Number of cows, 11; condition, good; feed, hay, stover, brewers' grains; stables, good and clean, fair light, fair ventilation; yard, fairly dry and clean, fair drainage; water, well; sells to Redford Milk Station; Durham and Holstein grades.

T. Houghton—Number of cows, 10; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean, fair light, ventilation fair; yard, fairly dry and clean, fair drainage; water, well; sells to Redford Milk Station; Holstein grades.

H. Houghton—Number of cows, 10; condition, good; feed, stover, ground corn and oats; stables, good and clean, fair light, ventilation fair; yard, fairly dry and clean, fair drainage; water, well; sells to Redford Milk Station; Holstein grades.

R. Burtt—Number of cows, 9; condition, good; feed, hay, stover, ground corn and oats; stables, fair and fairly clean, fair light, ventilation fair; yard, fairly dry and clean, fair drainage; water, well; sells to Redford Milk Station; Holstein grades.

At Sand Hill:

V. Stulton—Number of cows, 12; condition, good; feed, hay, ground corn and oats; stables, good and clean, fair light, fair ventilation; yard, fairly good and clean; water, well; sells to Sand Hill Milk Station; Durham and Jersey grades.

R. Smitherman—Number of cows, 11; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean, fair light, ventilation fair; yard, fairly dry and clean, good drainage; water, well; sells to Sand Hill Milk Station; Jersey and Durham grades.

J. Creasovet—Number of cows, 6; condition, good; feed, hay, ground corn and oats; stables, good and clean, good light, good ventilation; yard, fairly dry and clean, fair drainage; water, well; sells to Sand Hill Milk Station; Durham and Jersey grades.

W. Merritt—Number of cows, 8; condition, good; feed, hay, stover and corn; stables, good and clean, good light, ventilation good; yard, dry and fairly clean, fair drainage; water, well; sells to Sand Hill Milk Station; Holstein, Durham and Jersey grades.

H. Young—Number of cows, 8; condition, fair; feed, hay and middlings; stables, fair and fairly clean, fair light, fair ventilation; yard, wet but fairly clean, fair drainage; water, well; sells to Sand Hill Milk Station; Durham, Jersey and Holstein grades.

R. Church—Number of cows, 30; condition, good; feed, hay, stover, bran, middlings, ground corn and oats; stables, good and clean; good light, ventilation good; yard, dry and clean, good drainage; water, well; sells to Sand Hill Milk Station; Durham, Holstein and Jersey grades.

O. Millard—Number of cows, 23; condition, good; feed, hay, stover, bran, ground corn and oats; stables good and clean, fair light, ventilation fair; yard, fairly dry and clean, fair drainage; water, well; sells to Sand Hill Milk Station; Durham, Jersey and Holstein grades.

Larkin Bros.—Number of cows, 20; condition, good; feed, hay, stover, bran, ground corn and oats; stables, good, ventilation good; yard, fair and fairly clean, fair drainage; water, well; sells to Sand Hill Milk Station; Holstein, Durham and Jersey grades.

J. VanDyke—Number of cows, 7; condition, good; feed, hay, stover, bran, ground corn and oats; stables, good and clean, light fair, fair ventilation; yard, fair, fair drainage; water, well; sells to Sand Hill Milk Station; Durham, Holstein and Jersey grades.

G. Larson—Number of cows, 10; condition, fair; feed, hay, bran, ground corn and oats; stables, good and fairly clean, fair light, ventilation fair;

yard, fair with fair drainage; water, well; sells to Sand Hill Milk Station; Jersey, Holstein and Durham grades.

DuBois & Sally—Number of cows, 12; condition, fair; feed, hay, stover, bran, ground corn and oats; stables, fair and fairly clean, fair light, ventilation fair; yard, fairly dry and clean, fair drainage; water, well; sells to Sand Hill Milk Station; Holstein, Durham and Jersey grades.

At Stanton:

B. Willett—Number of cows, 19; condition, good and clean; feed, hay, bran, cornmeal and carrots; stables, fair and clean, light good, good ventilation; yard, fair and fairly clean, fair drainage; water, well; retails yearly 90,000 pounds; average test, 3.7 per cent; Durham and Jersey grades.

At Sheldon:

C. Martin—Number of cows, 8; condition, good and clean; feed, hay, stover, ground corn and oats; stables, fairly good and clean, fair light, good ventilation; yard, fair and fairly dry, good drainage; water, well; sells to Detroit Creamery Co., at Sheldon Station; Durham grades.

C. Sayer—Number of cows, 11; condition, good; feed, hay, stover, ground wheat and oats; stables, good and fairly clean, fair light, good ventilation; yard, dry and clean, good drainage; water, well; sells to Detroit Creamery Co. at Sheldon Station; Durham grades.

J. Taylor—Number of cows, 12; condition, good; feed, hay, stover, bran and cottonseed meal; stables, fair and fairly clean, fair light, good ventilation; yard, fairly dry and clean, fair drainage; water, well; sells to Detroit Creamery Co. at Sheldon Station; Durham grades.

G. Smith—Number of cows, 12; condition, good and clean; feed, hay, stover, bran, ground corn and oats; stables, good and clean, cement floor, good light, good ventilation; yard, dry and clean, good drainage; water, well; sells to Detroit Creamery Co. at Sheldon Station; Durham grades.

E. P. Yost—Number of cows, 10; condition, good; feed, hay, ensilage, bran and cottonseed meal; stables, good and clean, fair light, good ventilation; yard, fair and fairly dry, fair drainage; water, well; sells to Detroit Creamery Co. at Sheldon Station; Durham grades.

C. Schaub—Number of cows, 10; condition, good; feed, hay, stover, bran and cottonseed meal; stables, good and clean, fair light, with fair ventilation; yard, fairly dry and clean; water, well; sells to Detroit Creamery Co. at Sheldon Station; Holstein, Jersey and Durham grades.

At Traverse City:

E. L. Ransom—Number of cows, 24; condition, good; feed, hay, ensilage, corn and cottonseed meal; stables, extra good and clean, light good, good ventilation; yard, dry and clean, good drainage; water, artesian well; retails; milk room, neat and clean; cools milk in water tank, temperature below 50 degrees; Holstein grades.

G. W. Miller—Number of cows, 19; condition, good; feed, hay, ensilage, bran, cottonseed meal, ground corn and oats; stables, good and clean, good light, ventilation good; yard, dry and clean, fair drainage; water, well and spring; retails, aerates; milk house, neat and clean, room cooled by ice attached; Durham, Devon, Holstein and Jersey grades.

E. Vaughn—Number of cows, 5; condition, good; feed, hay, stover, bran, corn and cottonseed meal; stables, good and clean, good light, ventilation good; yard, dry and fairly clean, fair drainage; water, well; wholesales; Durham grades.

Mr. Grant—Number of cows, 10; condition, good; feed, hay, stover, ground peas and oats; stables, close but fairly clean, light poor, poor ventilation; yard, fairly dry and clean, fair drainage; water, well; wholesales; Durham grades.

G. Sachtleben—Number of cows, 16; condition, good; feed, stover, bran, ground corn and oats; stables, good and fairly clean, light poor, good ventilation; yard, dry and clean, good drainage; water, well; retails; Durham and Holstein grades.

R. Rindolf—Number of cows, 12; condition, good; feed, hay, stover, bran and cornmeal; stables, good and clean, light poor, poor ventilation; yard, fair and fairly clean, fair drainage; water, well; wholesales; aerates in stable; Holstein and Durham grades.

H. Ennis—Number of cows, 9; condition, good; feed, hay, stover, ground corn and oats; stables, poor, will rebuild soon, poor ventilation; yard, fair; water, well; retails; Durham and Jersey grades.

John F. Miller—Number of cows, 14; condition, good and clean; feed, hay, stover, bran, cornmeal and gluten; stables, good and clean; uses sawdust absorbant; light good, good ventilation; yard, dry and clean, good drainage; water, well; uses separator; sells cream and butter; thoroughbred Jerseys and Jersey grades.

April Inspection.

At Benton Harbor:

G. Franz—Number of cows, 30; condition, extra good and clean; feed, hay, ensilage and bran; stables, good and clean, good light, ventilation good; yard, dry and clean, good drainage; water, well. Sells to Martindale. Jersey and Durham grades.

C. and J. Strome—Number of cows, 12; condition, good; feed, hay, bran and middlings; stables, good and clean, good light: ventilation, good; yard, dry and clean, good drainage; water, well and spring. Sells to Martindale. Jersey and Durham grades.

George Youre—Number of cows, 40! condition, good; feed, hay, corn, meal and bran; stables, fairly good and clean; light fair, ventilation fair;

yard, dry and clean, fair drainage; water, wells. Retails, aerates. Jersey, Durham and Holstein grades.

J. D. Closson & Son—Number of cows, 14; condition, good and clean; stables, good and extra clean, good light and ventilation; yard, dry and clean, good drainage; water, well, aerates. Sells to H. E. Peters. Jersey and Durham grades.

B. T. Sells—Number of cows, 13; condition, good; feed, hay; stables, good and clean, good light; ventilation good; yard, dry and clean, good drainage; water, well. Sells to H. E. Peters. Durham grades.

S. McCard—Number of cows, 21; condition, good; feed, hay, ensilage, bran and middlings; stables, good and clean, good light; ventilation good; yard, dry and clean, good drainage; water, well; wholesales. Jersey and Durham grades.

H. E. Peters—Retails. Buys milk from B. F. Sells, J. D. Closson & Son and George Youre.

At Howell:

L. Pettabone—Number of cows, 20; condition, good; feed, hay, bran, ground corn and oats; stables, good and clean, good light; good ventilation; yard, dry and clean; water, well and spring. Retails, aerates. Jersey and Durham grades.

G. W. Earl—Number of cows, 18; condition, good; feed, hay, bran and middlings; stables, good and clean, fair light; yard, dry and fairly clean, good drainage; water, well and spring; retails. Durham grades.

At Monroe:

E. Sellers—Number of cows, 7; condition, good; feed, hay, bran, ground corn and oats; stables, good and fairly clean, fair light, fair ventilation; yard fairly dry and clean, fair drainage; water, well. Sells milk to H. C. Schneurstein. Jersey and Durham grades.

J. Ruff—Number of cows, 28; condition, good and clean; feed, hay, ground corn and oats, bran and oilmeal; stables, good and clean, fair light, fair ventilation; yard, dry and clean, fair drainage; water, well. Sells to H. C. Schneurstein. Durham and Jersey grades.

L. Quill—Number of cows, 24; condition, good and clean; feed, hay, bran, oilmeal, ground corn and oats; stables, good and clean, good light, fair ventilation; yard, dry and fairly clean, fair drainage; water, well. Sells to H. C. Schneurstein. Jersey and Durham grades.

J. Moyer—Number of cows, 12; condition, good; feed, hay, bran, ground corn and oats; stables, good and clean, good light, good ventilation; yard, dry and clean, fair drainage; water, well; retails, aerates in milk house. Jersey and Durham grades.

At Petersburg:

George Peters & Son—Number of cows, 82; condition, extra good and clean; feed, hay, ensilage and corn; stables, fine, extra neat and clean, fair light; 4 silos, 800 ton capacity; good ventilation; yard dry and clean, good drainage; water, well. Uses aerator and separator; retails butter and cream in Toledo. Thoroughbred Jerseys and Jersey grades; a very fine herd.

O. Gardner—Number of cows, 10; condition, good; feed, hay, stover, ground corn and oats and national food; stables, fair and clean, fair light, fair ventilation; yard, dry and clean, good drainage; water, well. Sells to Euclid Cheese Factory. Jersey and Durham grades.

C. Pickens—Number of cows, 12; condition, good; feed, hay, stover and corn; stables, good and clean, good light, ventilation good; yard, dry and clean, fair drainage; water, well. Sells to Euclid Cheese Factory.

H. Hauck—Number of cows, 9; condition, good; feed, hay, stover and corn; stables, good and clean; light good, good ventilation; yard, dry and clean; good drainage; water, well. Sells to Euclid Cheese Factory. Holstein grades.

At Reading:

C. Allen—Number of cows, 18; condition, good; feed, hay, stover, ground corn and oats; stables, good and clean, fair light, ventilation fair; yard, dry and clean, good drainage; water, well; retails. Jersey and Durham grades.

E. Webster—Number of cows, 20; condition, good; feed, hay, stover, ground wheat and oats; stables, extra good, cement floor, good light, improved system of ventilation; yard, dry and clean, good drainage; water, well; retails, aerates; milk house, neat and clean. Durham, Holstein and Jersey grades.

At St. Joseph:

A. M. Birdsey—Number of cows, 16; condition, good; feed, hay, carrots and mangles; stables, good and clean, good light, ventilation good; yard, dry and clean, good drainage; water, well; wholesales. Jersey and Durham grades.

J. T. Clark—Number of cows, 30; condition, good; feed, hay, ground corn and oats; stables, fair and clean, fair light, good ventilation; yard, dry and clean, good drainage; water, well; retails. Jersey and Durham grades.

Foster Bros.—Number of cows, 24; condition, good; feed, hay, cornmeal and bran; stables, good and clean and well lighted, good ventilation; yard, dry and clean, good drainage; water, well and spring; retails. Jersey, Durham, Herefords and Holstein grades.

C. R. Crawford—Number of cows, 42; condition, good; feed, hay, pasture and bran; stables, good and clean, good light, ventilation good; yard, dry and clean, fair drainage; water, well; retails, aerates; milk house, neat and clean. Holstein, Durham and Jersey grades.

George E. Smith—Number of cows, 40; condition, good; feed, hay, ensilage, bran and middlings; stables, good and clean. good light, ventilation good; yard, dry and clean, good drainage; water, well and river; wholesales. Milk house, neat and clean. Holstein, Durham and Jersey grades.

May Inspection.

At Farmington:

C. Paulger—Number of cows, 10; condition, good; feed, pasture, ground corn and oats; stables, good and clean, good light, ventilation good; yard, dry and clean, good drainage; retails.

E. Conroy—Number of cows, 10; condition. good; feed, pasture; stables, fair but clean, light fair, fair ventilation; yard, dry and clean, fair drainage; water, spring. Sells to Warner's Cheese Factory. Durham grades.

C. Krum—Number of cows, 6; condition, good; feed, pasture; stables, good and clean, light good, good ventilation; yard, dry and clean, good drainage; water, spring. Sells to Warner's Cheese Factory. Holstein and Durham grades.

C. Shute—Number of cows, 12; condition, good; feed. pasture, ground corn and oats; stables, good and clean, good light, ventilation good; yard, dry and clean, good drainage; water, well. Sells to Warner's Cheese Factory. Holstein grades.

E. C. Dickinson—Number of cows, 9; condition, good; feed, pasture; stables, good and clean, good light, ventilation good; yard, dry and clean, good drainage; water. well. Sells to Warner's Cheese Factory. Durham grades.

W. Parish—Number of cows, 20; condition, good; feed, pasture, ground corn and oats; stables, good and clean, good light, ventilation. good; yard, dry and clean, good drainage; water, spring. Sells to Warner's Cheese Factory. Holstein, Durham and Guernsey grades.

F. H. Bode—Number of cows, 18; condition, good; feed, pasture, ground corn and oats; stables, good and clean, good light, ventilation, good; yard. dry and clean; water, well. Sells to Warner's Cheese Factory. Holsteins and Holstein grades.

C. E. Hallock—Number of cows, 7; condition, good; feed, hay and pasture; stables, good and clean, good light, ventilation, good; yard, dry and clean, good drainage; water, well. Makes butter. Durham and Jersey grades.

C. Brown—Number of cows, 13; condition, fair; feed, pasture; stables, fair but clean, fair light, ventilation, fair; yard, dry and clean. fair drainage; water, spring. Sells to Warner's Cheese Factory. Durham grades.

C. Smith—Number of cows, 7; condition, good; feed, pasture, ground corn and oats; stables, good and clean, light, good, good ventilation; yard, dry and clean, fair drainage; water, well and spring. Sells to Warner's Cheese Factory. Native grades.

H. Pagels—Number of cows, 8; condition, good; feed. pasture, ground corn and oats; stables, good and clean. light, fair, fair ventilation; yard, dry and clean, good drainage; water, well. Sells to Warner's Cheese Factory. Jersey, Durham and Holstein grades.

S. Lock—Number of cows, 8; condition, good; feed, hay. pasture, ground corn and oats; stables, good and clean. good light; yard, dry and clean, good drainage; water, well. Sells to Warner's Cheese Factory. Holstein, Durham and Jersey grades.

E. Pinnow—Number of cows, 6; condition, good; feed, pasture, ground oats and wheat; stables, good and clean, light good, good ventilation; yard, dry and clean, fair drainage; water, well. Sells to Warner's Cheese Factory. Durham and Holstein grades.

C. Wesfall—Number of cows, 8; condition, good; feed, pasture; stables, good and clean, fair light, ventilation, good; yard, dry and clean, fair drainage; water, well. Sells to Warner's Cheese Factory. Holstein grades.

F. Westfall—Number of cows, 7; condition, good; feed, pasture and cornmeal; stables, good and clean, light, good, good ventilation; yard yard, dry and clean, fair drainage; water, well. Sells to Warner's Cheese Factory. Holstein grades.

H. Spoler—Number of cows, 10; condition, good; feed, pasture; stables good and clean, good light, fair ventilation; yard, dry and clean, fair drainage; water, well. Sells to Warner's Cheese Factory. Jersey, Durham and Holstein grades.

J. Guldner—Number of cows, 12; condition, good; feed, hay, ground oats and rye; stables, fair and clean, light, fair; yard, dry and clean, good drainage; water, well. Sells to Warner's Cheese Factory. Durham and Holstein grades.

J. H. Johnson—Number of cows, 9; condition, good and clean; feed, hay, ensilage, ground corn and oats and bran; stables, good and clean, good light, ventilation, good; water, well. Sells to Warner's Cheese Factory. Thoroughbred Holsteins. A fine herd.

M. Hewton—Number of cows, 24; condition, good and clean; feed, hay, ground corn, oats and wheat; stables, good and clean, cement floor, good light and ventilation; yard, dry and clean, good drainage; water, well. Sells to Warner's Cheese Factory. Holstein and Holstein grades.

W. H. Lewis—Number of cows, 14; condition, good and clean; feed, hay, ensilage, bran, ground corn, oats and rye; stables, fair but clean, fair light; ventilation, fair; yard, not good; water. well. Retails, aerates. Milk room, neat and clean. Jersey grades.

William Moss—Number of cows, 10; condition, good and clean; feed, hay, bran, ground corn and oats; stables, good and clean, light, poor, ventilation, poor; yard, fairly dry and clean; water, well. Sells to Warner's Cheese Factory. Holstein grades.

At Franklin:

C. Seeley—Number of cows, 11; condition, good; feed, hay, ground corn and oats; stables, good and clean, good light, ventilation, good; yard, dry and clean, good drainage; water, well. Sells to Warner's Cheese Factory. Holstein grades.

D. Harger—Number of cows, 12; condition, good; feed, hay, ground corn and oats; stables, good and clean, good light, ventilation, good; yard. dry and clean, good drainage; water, well. Sells to Warner's Cheese Factory. Holstein, Durham and Jersey grades.

W. V. Mason—Number of cows, 8; condition, good; feed, pasture, ground corn and oats; stables, good and clean, good light, ventilation, good; yard, dry and clean, good drainage; water, well. Sells to Warner's Cheese Factory. Durham grades.

J. Grooelan—Number of cows, 12; condition, good; feed, pasture, ground wheat and oats; stables, good and clean, good light, ventilation, good; yard, dry and clean, good drainage; water, well. Sells to Warner's Cheese Factory. Holstein and Jersey grades.

E. Higby—Number of cows, 6; condition, good and clean; feed, pasture, ground corn, oats and wheat; stables, fair but clean, light fair, fair ventilation; yard, dry and clean, good drainage; water, well. Sells to Warner's Cheese Factory. Durham and Holstein grades.

At Holly:

E. E. Johnson—Number of cows, 18; condition, good and clean; feed, pasture, ground corn, oats and bran; stables, good and clean; good light, ventilation, good; yard, dry and clean, good drainage; water, well. Retails. Test 3.6 per cent. Jersey and Durham grades.

A. Shields—Number of cows, 11; condition, good and clean; feed, pasture; stables, fair but clean; fair light, ventilation, fair; yard, dry and clean, good drainage; water, well; retails. Milk test 3.4 per cent. Jersey and Durham grades.

At Milford:

C. L. Pearson—Number of cows, 24; condition, good and clean; feed, pasture and bran; stables, good and clean, good light, good ventilation; yard, dry and clean; water, well and spring. Sells to Milford Cheese Factory. Jersey, Durham and Holstein and native grades.

T. Crowfield—Number of cows, 11; condition, good and clean; feed, pasture, cornmeal and bran; stables, good and clean, good light, ventilation, good; yard, dry and clean, good drainage; water, well. Sells to Milford Cheese Factory. Durham grades.

R. Robson—Number of cows, 5; condition, good and clean; feed, pasture; stables, good and clean, good light, ventilation, good; yard, dry and clean, good drainage; water, well. Sells to Milford Cheese Factory. Jersey grades.

N. L. Clark—Number of cows, 15; condition, good and clean; feed, pasture, ground rye and oats; stables, good and clean, good light, ventilation, good; yard, dry and clean, good drainage; water, well and spring. Sells to Milford Cheese factory. Jersey and Holstein grades.

At Northville:

W. H. Thornton—Number of cows, 20; condition, good; feed, hay, ground corn and oats; stables, good and clean, light good, good ventilation; yard, dry and clean, good drainage; water, spring. Test 3.6 per cent. Retails; cools in ice tank; wagon in fair condition. Durham and Jersey grades.

W. E. Ambler—Number of cows, 20; condition, good; feed, hay, ground corn, oats and wheat; stables, good and clean, good light, ventilation, good; yard, dry and clean, good drainage; water, spring. Test 3.9 per cent. Retails; cools in spring house. Wagon first-class. Jersey and Durham grades.

G. C. Benton—Number of cows, 26; condition, good; feed, hay, bran, ground corn and oats; stables, good and clean, light, fair, good ventilation; yard, dry and clean, good drainage; water, well. Test 3.6 per cent. Retails; cools in ice tank. Durham and Jersey grades.

G. W. Clark—Number of cows, 11; condition, good; feed, hay, ground corn, oats and mangles; stables, good and clean, good light, ventilation, good; yard, dry and clean, good drainage; water, well. Test, 3.4 per cent. Sells to cheese factory. Holstein and Jersey grades.

J. Miller—Number of cows, 10; condition, good; feed, hay, ground corn and oats; stables, fair and fairly clean, fair light, ventilation, good; yard, dry and clean, good drainage; water, spring. Test, 3.3 per cent. Sells to cheese factory. Durham and Holstein grades.

At Pontiac:

G. L. Todd—Number of cows, 8; condition, good; feed, pasture; stables, fair but clean, light fair, fair ventilation; yard, dry and clean; good drainage; water, well. Retails; wagon, fair. Jersey, Ayrshire and Durham grades.

W. H. Kemp—Number of cows, 30; condition, good and clean; feed, pasture, cornmeal and bran; stables, good and clean, good light, ventilation good; yard dry, clean and well drained; water, spring. Retails; wagon, good and clean. Jersey grades.

J. E. Callow—Number of cows, 22; condition, good; feed, pasture; stables, good and clean, good light, ventilation, good; yard, dry, good drainage; water, spring. Retails. Jersey and Durham grades.

I. S. Taylor—Number of cows, 18; condition, good; feed, pasture; stables, good and clean, good light, ventilation, good; yard, dry and clean, well drained; water, well. Retails.

S. Nott—Number of cows, 24; condition, good and clean; feed, pasture; stables, good and clean, good light, ventilation, good; yard, dry and clean, good drainage; water, well. Retails, aerates. Jersey and Guernsey grades.

R. Bartlett—Number of cows, 44; condition, good and clean; feed pasture. ground corn, oats and bran; stables, good and clean, good light, ventilation, good; yard, dry and clean, good drainage; water, well. Wholesales and retails. Jersey herd.

B. M. Webster—Number of cows, 30; condition, good and clean; feed, pasture, ground corn, oats and middlings; stables, good and clean, good light, ventilation, good; yard, dry and clean, good drainage; water, well and spring. Retails. Wagon good, clean and neat. Durham and Jersey grades.

At Royal Oak:

Black Meddow Dairy Co.—Number of cows, 75; condition, extra good; feed, pasture, ground corn and oats; stables, good and clean, good light, ventilation, good; yard, dry and clean, good drainage; water, spring. Sells to Detroit Creamery Co. Thoroughbred Jerseys and Jersey grades.

A. Johnson—Number of cows, 8; condition, good; feed, pasture; stables, good and clean, light fair, fair ventilation; yard, dry and clean; water, well. Sells to Detroit Creamery Co., Royal Oak Milk Station. Holstein and Jersey grades.

J. Gifford—Number of cows, 14; condition, good; feed pasture; stables, good and clean, fair light, ventilation, good; yard, dry and clean, fair drainage; water well. Sells to Detroit Creamery Co., Royal Oak Milk Station. Jersey, Durham and Holstein grades.

G. Gettis—Number of cows, 10; condition, good; feed, pasture; stables, good and clean, good light, ventilation, good; yard, dry and clean, fair drainage; water, well. Sells to Detroit Creamery Co., Royal Oak Milk Station. Holstein grades.

F. Morrell—Number of cows, 10; condition, good; feed, pasture and cornmeal; stables, good and clean, good light, ventilation, good; yard, dry and clean, good drainage; water, well. Sells to Detroit Creamery Co.'s Royal Oak Milk Station. Jersey and Durham grades.

J. Limebaugh—Number of cows, 11; condition, good; feed, pasture, ground corn, oats and bran; stables, good and clean, fair light, ventilation, fair; yard, dry and clean, good drainage; water, well. Sells to Detroit Creamery Co.'s Royal Oak Milk Station. Durham grades.

J. Selkey—Number of cows, 9; condition, good; feed, pasture; stables, fair but clean, fair light, ventilation, fair; yard, dry and clean, good drainage; water, well. Sells to Detroit Creamery Co.'s Royal Oak Milk Station. Durham grades.

June Inspection.

At Kalamazoo:

Asylum Farm Dairy, J. A. Hoffman, Steward—Number of cows, 40; condition, fine; feed, pasture and bran; stables, clean and odorless, nicely whitewashed, cement floor, good light, good ventilation; swing stanchions, calf pens, box stalls; root cellar, capacity 8,000 bushels; two silos, capacity, 550 tons. Ample storage for hay and grain, electric lights. Asylum water works, all arranged so as to be very convenient for handling the herd; surroundings, dry and clean, good drainage. Milk house separate from stable and provided with scales, areator and boiler. All milk aerated and utensils kept scrupuously clean. Milk used at Asylum. Herd, mixed. Durham, Holstein, Jersey and Hereford grades.

Colony Farm, J. A. Hoffman, Steward—Number of cows, 35; condition, good, clean and healthy; feed, pasture, ensilage and bran; stables, clean and free from odor, thoroughly whitewashed, cement floors, good light, well ventilated; calf pens, box stalls to isolate cows; root cellar, capacity, 9,000 bushels; two silos, capacity, 550 tons. Ample storage for hay; electric lights, ample supply well water, all nicely arranged for convenience in caring for the comfort of the herd; surroundings, dry and clean, with extra good drainage. Milk house separate from stables and provided with scales, aerator and boiler. All milk aerated and utensils sterilized after each use. Milk used at the Asylum. Herd, mixed. Holstein, Durham and Jersey grades.

Brook Farm State Property, J. A. Hoffman, Steward—Number of cows, 56; condition, fine and healthy; feed, pasture, ensilage and bran; stables, clean and odorless with high ceiling, thoroughly whitewashed, ample light, good ventilation; calf pens, box stalls to isolate cows when necessary; root cellar, capacity, 8,000 bushels; two silos, capacity, 550 tons; ample storage for hay and grain, electric lights, spring water, all arranged for convenience in feeding and the care, health and comfort of the herd; surroundings, dry and clean, with good drainage. Milk house separate from stables and provided with scales, aerator and boiler. All milk aerated and utensils thoroughly cleaned and sterilized after each use. Milk used at the Asylum. Herd, Thoroughbred and High Grade Holsteins, a fine herd.

At Lapeer:

The Home State Property, F. Johnson, Steward—Number of cows, 33; condition, extra good and clean; feed, pasture, bran and middlings; stables, new and up-to-date, cement floors, a fine system of light and ventilation; root cellar, calf pens, box stalls, ample storage for hay and grain; a 400 ton silo, all new and nicely arranged; yard fairly dry, not yet graded; milk house fitted with all the arrangements for handling the milk. The place is new, not yet completed, and the herd young, but from present appearance, it will be but a short time when the Home will have a herd and surroundings that all may well feel proud of. Herd, Thoroughbred and Grade Holsteins.

At Pontiac:

Pontiac Asylum State Property, E. C. Smith, Steward—Number of cows, 73; condition, fine, clean and healthy; feed, pasture, gluten and bran; stables, extra good and clean, ample light with good ventilation, the stable arranged to secure the health and comfort of the herd, large storage for hay and grain, supplied with hay cutter, feed mill, two silos, 400 tons capacity each; calf pens, box stalls to isolate cows when necessary, all nicely arranged and scrupulously clean; yard dry and thoroughly clean, milk house separate from stable and supplied with all necessary utensils for the proper handling of the milk. Herd, Thoroughbred Holsteins.

Michigan Asylum Dairies—Summary:

Average 94 cows in milk; yearly yield per cow. Brook Farm, 11,446 lbs. Yearly yield per cow, Colony Farm, 7,154 lbs. Yearly yield per cow, Asylum Farm, 6,883 lbs. Yearly milk yield, to supply Michigan Insane Asylum, 1,131,156 lbs. The improvements in the past year in the cleanliness and care of the stables and their surroundings and the fine condition of the herds is especially noticeable, and confers credit upon the present administration.

INSPECTION OF
CHEESE FACTORIES AND CREAMERIES.

CREAMERIES AND CHEESE FACTORIES INSPECTED.

October Inspection.

Huron County:

Bad Axe Creamery, Bad Axe, Mich., W. Rapson, president; H. O'Dell, secretary and treasurer; C. L. Myers, butter maker. Capacity of factory 15,000 lbs., receiving daily 12,000 lbs. The outfit comprises 1 No. 1 separator, 1-400 gal. receiving vat, 1-400 gal. cream vat, 10 H. P. engine, 15 H. P. boiler. Market, Philadelphia.

Sebewaing Creamery, Sebewaing, Mich., Wm. Wildman, president; J. Spriess, secretary; J. A. Spriess, butter maker. Capacity of factory 12,000 lbs., receiving daily 3,000 lbs. The outfit comprises 1 No. 1 separator, 1-500 gal. receiving vat, 1-400 gal. cream vat, 1-300 gal. churn, 1-20 bottle Babcock tester. Market, Philadelphia.

Kalamazoo County:

Climax Creamery, Climax, Mich., L. T. Clark, president; Frank Wilson, secretary and manager; A. Wilson, butter maker. Capacity of factory, 15,000 lbs., receiving daily, 9,000 lbs. Creamery and outfit in a fair sanitary condition, outfit consists of 2 No. 1 separators, 1-500 gal. receiving vat, 1-300 gal. cream vat, 1-300 gal. churn, 1-10 H. P. engine, 1-15 H. P. boiler, 20 bottle Babcock tester. Average test of milk 4.2%. Market, New York.

Highland Creamery, Oshtemo, Mich., R. C. Balch, president; S. W. Kendall, secretary; J. McKelvin, butter maker. Capacity of factory 12,000 lbs., receiving daily 5,000 lbs. Building and outfit in a very fine sanitary condition. The outfit consists of 1 No. 1 separator, 1 No. 3 separator, 1-300 gal. receiving vat, 2-150 gal. cream vats, 1-200 gal. churn, 1-20 bottle Babcock tester, 1-6 H. P. engine, 1-10 H. P. boiler. Market, Home and New York.

Riverside Creamery, Galesburg, Mich., F. O. Crossfield, president, butter maker and manager. Capacity of creamery 8,000 lbs., receiving daily 5,000 lbs. Building fair; outfit in a fine sanitary condition and consists of 1 No. 1 separator, 1-250 gal. receiving vat. 1-300 gal. cream ripener, 1-375 gal. churn, 1-24 bottle Babcock tester, 1-10 H. P. engine, 1-15 H. P. boiler. Average test of milk 4.2%. Number of patrons, 95. Market, Home and Chicago.

Schoolcraft Creamery, Schoolcraft, Mich., Geo. Gilchrist, president; C. W. Krum, secretary; C. A. Duncan, treasurer; B. C. Straut, butter maker. Capacity of creamery 15,000 lbs., receiving daily 8,000 lbs. Building and outfit in a fine sanitary condition, outfit consists of 1 No. 1 separator, 1-450 gal. cream vat, 1-33 gal. churn, 1-32 bottle Babcock tester, 1-8 H. P. engine, 1-15 H. P. boiler. Number of patrons, 130. Average test of milk, 4.4%. Market, Philadelphia.

Vicksburg Creamery, Vicksburg, Mich., John Hamilton, president; O. O. Bishop, secretary; Fred Stafford, butter maker. Capacity of creamery 20,000 lbs., receiving daily 12,000 lbs. Building and outfit in first-class sanitary condition, outfit consists of 2 No. 1 separators, 1-500 gal. receiving vat, 1-300 gal. churn, 1 skim-milk weigher, 1-32 bottle Babcock tester, 1-12 H. P. engine, 1-40 H. P. boiler. Number of patrons, 150. Average test of milk, 4.4%. Market, Philadelphia.

St. Clair County:

Yale Creamery, Yale, Mich., E. B. Fuller, president; O. Dennison, butter maker and manager. Capacity of creamery 15,000 lbs., receiving daily 12,000 lbs. Creamery is new and nicely arranged and is in fine sanitary condition. Outfit consists of 1 No. 1 separator, 1-300 gal. receiving vat, 1 cream vat, 1-375 gal. churn, 1-32 bottle Babcock tester, 10 H. P. engine, 25 H. P. boiler.

Sanilac County:

Maple Valley Creamery, Brown City, Mich., A. E. Piper & Co., proprietor; J. J. Refender, butter maker. Capacity of creamery 25,000 lbs., receiving daily 22,000 lbs. Creamery is in good sanitary condition, the outfit consisting of 2 No. 1 separators, 1-400 gal. receiving vat, 1-400 gal. cream vat, 1-300 cream vat, 1-600 gal. churn, 10 H. P. engine, 50 H. P. boiler. Market, Buffalo.

Tuscola County:

Caro Elgin Butter Co., Caro, Mich., A. N. Hatch, president; W. A. Mudge, secretary; W. H. Bechtel, butter maker and manager. Capacity of creamery 25,000 lbs., receiving daily 12,000 lbs. Condition, good and sanitary; outfit consists of 2 No. 1 separators, 1-500 gal. receiving vat, 2-250 gal. cream vats, 1-400 gal. churn, 8 H. P. engine, 1-12 H. P. boiler.

Unionville Creamery, Unionville, Mich., W. Brady, president; H. G. Spring, secretary; A. E. Clifferer, butter maker. Capacity of creamery 25,000 lbs., receiving daily 12,000 lbs. Creamery in a fine sanitary condition and outfit consists of 2 No. 1 separators, 1-400 gal. receiving vat, 1-300 gal. cream vat, 1-375 gal. churn, 1-24 bottle Babcock tester, 1-12 H. P. engine, 1-20 H. P. boiler. Market, Philadelphia.

Van Buren County:

Glendale Creamery, Glendale, Mich., M. S. Sherred, secretary; T. Miller, butter maker and manager. Capacity of creamery 15,000 lbs., receiving daily 11,000 lbs. Building, machinery and utensils in a fine sanitary condition. The outfit consists of 2 No. 1 separators, 1-400 gal. receiving vat, 2-200 gal. cream vats, 1-400 gal. churn, 1-6 H. P. engine, 1-20 H. P. boiler, 1-20 bottle Babcock tester. Market, New York.

Berlamont Creamery, Berlamont, Mich., C. Lanton, proprietor, butter maker and manager. Capacity of creamery 10,000 lbs., receiving daily 4,000 lbs. Outfit consists of 1 No. 1 separator, 1-300 gal. receiving vat, 1-300 gal. cream vat, 1-200 gal. churn, 1-8 H. P. engine, 1-20 H. P. boiler, 1-24 bottle Babcock tester. Market, New York.

Base Line Cheese Factory, Bloomingdale, Mich., L. Reid, cheese maker and manager. Factory building, curing room and all machinery and utensils in a very unsanitary condition. Outfit consists of 1-500 gal. cheese vat, 1-15 H. P. boiler, 16 upright press, 1-20 bottle Babcock tester. Buys milk by Babcock test receiving daily 3,000 lbs. Makes Michigan Full Cream Cheese. Market, Home and Chicago.

Haven's Cheese Factory, Bloomingdale, Mich., E. A. Haven, proprietor and manager. Building and outfit clean and neat and in a fine sanitary condition, curing room large and clean, makes a high grade of Michigan cheese. Averages 4,000 lbs. of milk daily. Outfit consists of 2-500 gal. cheese vats, 1-12 H. P. engine, 1-15 H. P. boiler, 2 cheese presses, 1-20 bottle Babcock tester. Market, Home.

November Inspection.

Calhoun County:

Battle Creek Creamery, Battle Creek, Mich. Capacity of factory 30,000 lbs., receiving daily 12,000 lbs. The outfit comprises two No. 1 separators, one 200 gal. receiving vat, one 500 gal. receiving vat, one 300 gal. churn, one 24 Babcock tester, two pasteurizers, two power ice cream freezers, one refrigerating plant, large capacity, one 20 H. P. engine, one 50 H. P. boiler. Pasteurized milk retailed yearly 1,825,000 lbs. Pasteurized cream retailed yearly 483,000 lbs. Butter 75,000 lbs. Sanitary condition of building, good; sanitary condition of machinery and utensils, extra good.

Joppa Skimming Station, Joppa, Mich. Moon Bros., proprietors, J. Armstrong, manager. Outfit comprises one No. 1 separator, one 500 gal. receiving vat, one automatic skim milk weigher, one 18 H. P. engine, one 25 H. P. boiler. Number of patrons, 50; receiving daily 9,000 lbs. of milk; cream shipped to Battle Creek creamery. Sanitary condition of building good; of machinery, utensils, surroundings and drainage, good.

Marshall Creamery, J. Powell, president; P. Lockwood, secretary and treasurer. Capacity of creamery 30,000 lbs., receiving daily 12,000 lbs. Number of patrons 185, yearly output of butter, 175,000 lbs., color, medium; salt, medium; sanitary condition of building and surroundings, good; of outfit, extra good. The outfit consists of two No. 1 separators, one 500 gal. receiving vat, two 200 gal. cream ripeners, one 375 gal. churn, one automatic skim milk weigher, one 24 Babcock tester, one 10 H. P. engine, one 16 H. P. boiler.

Albion Creamery, Wm. Boyd, president; C. A. Grove, butter maker. Capacity of creamery, 30,000 lbs., receiving daily, 9,000 lbs. Number of patrons, 188; yearly output of butter, 110,000 lbs.; color, low medium; salt, medium; market, New York. Sanitary condition of building and surroundings, good; of outfit, extra good. Outfit consists of two No. 1 separators, one 400 gal. receiving vat, two 200 gal. cream ripeners, one skim milk weigher, one 375 gal. churn, one 10 H. P. engine, one 18 H. P. boiler, one 36 Babcock tester.

Ingham County:

Leslie Creamery, Geo. Laberteaux, president; T. E. Fair, butter maker and manager. Capacity of creamery 30,000 lbs., receiving daily 20,000 lbs. Number of patrons, 208; yearly amount of butter, 130,000 lbs.; market. New York; color, medium; salt, medium; sanitary condition of building, outfit and surroundings, good. Outfit consists of two No. 1 separators, one 400 gal. receiving vat, one 300 gal. cream vat, one 300 gal. skim milk vat, one 500 gal. churn, one 24 Babcock tester, one 6 H. P. engine, one 12 H. P. boiler.

Jackson County:

Parma Creamery, S. Foster, president; G. J. Pulleur, butter maker. Capacity of creamery, 40,000 lbs.; receiving daily, 35,000 lbs.; number of patrons. 325; yearly amount of butter, 287,500 lbs.; market, New York; color, medium; salt, medium; sanitary condition of building and surroundings, good; of outfit, extra good. Outfit comprises three No. 1 separators, one 600 gal. receiving vat, two 300 gal. cream ripeners, one Twentieth Century milk heater, one skim milk weigher, one 500 gal. churn, one 24 Babcock tester, one 12 H. P. engine, one 20 H. P. boiler.

Grass Lake Creamery, T. Dwelle. president; J. M. Rehrer, butter maker. Capacity of creamery, 30,000 lbs.; receiving daily, 20,000 lbs.; number of patrons, 250; yearly amount of butter, 250,000 lbs.; market, Detroit; color, high; salt, medium; sanitary condition of building and surroundings, good; of outfit, extra good. Outfit comprises three separators; one 300 gal. receiving vat, two 300 gal. ripeners, one 500 gal. churn, one milk heater. one 36 Babcock tester, one 10 H. P. engine, one 25 H. P. boiler.

Lenawee County:

Birdsall Skimming Station, C. R. & E. Mott, proprietors; F. Clark, manager. Daily milk received, 5,000 lbs.; number of patrons, 64; ship cream to Tecumseh; sanitary condition of building, outfit and surroundings, good; drainage, good. Outfit comprises one No. 1 separator, one 200 gal. receiving vat, one 32 Babcock tester, one 10 H. P. boiler.

Holloway Skimming Station, C. R. & E. Mott, proprietors. Daily milk received, 7,000 lbs.; number of patrons, 78; ship cream to Tecumseh; sanitary condition of building, outfit and surroundings, good; drainage, good. Outfit comprises one No. 1 separator, one 200 gal. receiving vat, one 32 Babcock tester, one 10 H. P. engine, one 10 H. P. boiler.

Tecumseh Creamery, C. R. & E. Mott, proprietors; E. Mott, butter maker. Capacity of creamery, 10,000 lbs.; receiving daily, 5,000 lbs., and

300 gal. cream from skimming stations; number of patrons, 100; yearly amount of butter, 350,000 lbs.; market, Toledo; color, high; salt, medium. Sanitary condition of building, outfit and surroundings, good; drainage, good. Outfit comprises one No. 1 separator, one 200 gal. receiving vat, two 300 gal. cream ripener; one 800 gal. churn, one 300 gal. churn, one 40 Babcock tester, one 12 H. P. engine, one 24 H. P. boiler.

Ridgeway Skimming Station, C. R. & E. Mott, proprietors. Daily milk received, 8,000 lbs.; number of patrons, 120; ship cream to Tecumseh; sanitary condition of building, outfit and surroundings, fairly good. Outfit comprises one separator, one 200 gal. receiving vat, one 32 Babcock tester, one 10 H. P. boiler.

Clinton Skimming Station, C. R. & E. Mott, proprietors. Daily milk received, 5,000 lbs.; capacity, 12.000 lbs,; number of patrons, 65; ship cream to Tecumseh; sanitary condition of building, outfit and surroundings, good. Outfit comprises one No. 1 separator, one 200 gal. receiving vat, one 32 Babcock tester, one 8 H. P. boiler.

Washtenaw County:

Manchester Creamery, J. A. Lowrey, president; J. A. Smith, butter maker. Capacity of creamery, 30,000 lbs.; receiving daily, 14.000 lbs.; number of patrons, 262; yearly amount of butter, 175,000 lbs.; market Boston; color, medium; salt, medium. Sanitary condition of building, outfit and surroundings, good; drainage, extra good. Outfit comprises three No. 1 separators, one 300 gal. receiving vat, one 300 gal. cream ripener, one 400 gal. churn, one 200 gal. cream vat, one 24 Babcock tester, one 10 H. P. engine, one 30 H. P. boiler.

Tipton Cheese Factory, W. A. Beebe & Son, proprietors; A. G. Preston, cheese maker. Daily milk receipts, 4,000 lbs.; number of patrons, 45; sanitary condition of building, outfit and surroundings, good; market, home; brand, Michigan Full Cream Cheese; yearly output of cheese, 100,000 lbs. Outfit comprises one 550 gal. cheese vat, one 300 gal. cheese vat, one 12 H. P. boiler.

Addison Cheese Factory. L. T. Smith, president; C. L. Davis, cheese maker. Daily milk receipts, 2,000 lbs.; number of patrons, 13; brand, Addison; yearly output of cheese, 50,000 lbs.; market, Ohio and Indiana; building, poor, sanitary condition, fair; sanitary condition of outfit, good; of surroundings, poor; drainage, poor; water, good. Outfit comprises one 500 gal. cheese vat, one 6 Babcock tester; one curd sink; one cheese press.

January Inspection.

Allegan County:

Allegan Creamery, Allegan, Mich. H. F. Thomas, manager. Yearly receipts of milk, 3,000,000 lbs. Outfit consists of one No. 1 separator, one 500 gal. milk vat, one 400 gal. cream vat, one 375 gal. churn, 24 bottle tester, eight horse-power engine, 12 horse-power boiler. Condition of building, good, thoroughly sanitary in every department; condition of surroundings, good with extra good drainage; apparatus, good and clean. Average test of milk, 4.3 per cent. Yearly production of butter, 150.000 lbs; color, medium; salt, medium; number of patrons, 80; market, New York.

Chicora Creamery, Chicora, Mich. Geo. Austin, manager. Yearly receipts of milk are included in Allegan Creamery report. Outfit consists of one No. 1 separator, 400 gal. receiving vat, six horse-power engine, 10 horse-power boiler. Condition of building, good and sanitary; of apparatus, good and clean; of surroundings, fair with good drainage. Yearly production of butter is included in Allegan Creamery report. Average test of milk, 4.3 per cent; number of patrons, 105.

Dorr Creamery, Dorr. Mich. E. S. Botsford, manager. Yearly receipts of milk 3,100,000 lbs. Outfit consists of two No. 1 separators, 500 gal. milk vat. 400 gal. cream vat, 500 gal. churn, 32 bottle tester, 300 gal. skim milk vat, 10 horse-power engine, 15 horse-power boiler. Condition of buildings, good and sanitary; of apparatus, good and clean; of surroundings, good with good drainage. Average test of milk 5.0 per cent; yearly production of butter, 155,000 lbs.; color, medium; salt, medium; number of patrons, 113; market, New York.

Hamilton Creamery, Hamilton, Mich. H. J. Brouwer, manager. Yearly receipts of milk are included in the Allegan Creamery report. Outfit consists of one No. 1 separator, 250 gal. milk vat, 100 gal. cream vat, 24 bottle tester, six horse-power engine, 10 horse-power boiler. Condition of buildings, good and sanitary; of apparatus, good and clean; surroundings and drainage, good. Average test of milk, 4.3 per cent; yearly production of butter included in the Allegan Creamery report; number of patrons, 60.

Hilliards Creamery, Hilliards, Mich. H. E. Parmelee, manager. Yearly receipts of milk, 3.000,000 lbs. Outfit comprises two No. 1 separators, 700 gal. milk vat, 300 gal. twin cream vat, 24 bottle tester, 300 gal. ripener, 12 horse-power engine, 20 horse-power boiler. Condition of building, good and sanitary in every department; of apparatus, good and clean; of surroundings, good with good drainage. Average test of milk, 4.2 per cent; yearly production of butter, 130,000 lbs.; color, medium; salt, medium; number of patrons, 115; market, Philadelphia.

Hopkins Creamery, Hopkins Station, Mich. H. H. Stroud, manager. Yearly receipts of milk, 2,700,000 lbs. Outfit consists of one No. 1 separator, 400 gal. milk vat, one 300 gal. cream vat, 300 gal. churn, 20 bottle tester, 10 horse-power engine, 15 horse-power boiler. Condition of building, fine, a model creamery; apparatus, good and clean; surroundings, fine. Average test of milk, 4.8 per cent; yearly production of butter, 135,000 lbs; number of patrons, 70; market, New York.

Martin Creamery, Martin, Mich. A. C. Monteith, manager. Yearly receipts of milk, 2,200,000 lbs. Outfit consists of two No. 1 separators, 500 gal. milk vat, 600 gal. cream vat, 300 gal. churn, 24 bottle tester, eight horse-power engine, 12 horse-power boiler. Condition of building and apparatus, good and sanitary. Average test of milk, 4.2 per cent;

yearly production of butter, 110,000 lbs.; number of patrons. 135; market, Michigan Asylum, Kalamazoo.

Monterey Creamery, Monterey, Mich. H. H. Stroud, manager. Yearly receipts of milk and butter are included in the Hopkins Creamery report. Outfit consists of one No. 1 separator, one 500 gal. milk vat, one 10 horse-power boiler. Apparatus and surroundings, good; average test of milk, 4.8 per cent; number of patrons, 68.

Otsego Creamery, Otsego, Mich., C. I. Currey, manager. Yearly receipts of milk, 2,400.000 lbs. Outfit consists of one No. 1 separator, 400 gal. milk vat, 300 gal. cream vat, 300 gal. churn, 24 bottle tester, 12 horse-power engine, 15 horse-power boiler. Building and apparatus in good sanitary condition. Average test of milk, 4.2 per cent; yearly production of butter, 120,000 lbs.; number of patrons, 150; market, Philadelphia.

Rudell Creamery, Bradley, Mich., I. E. Wait, manager. Yearly receipts of milk, 1,080 000 lbs. Outfit consists of one No. 1 separator, 100 gal. milk vat, 200 gal. cream vat, 6 horse-power engine, 12 horse-power boiler. Condition of building and apparatus good and sanitary; good drainage and surroundings. Average test of milk, 4.2 per cent; yearly production, 200,000 lbs. of cream; number of patrons, 63; market, Grand Rapids.

Wayland Creamery, Wayland, Mich., E. W. Pickett, manager. Yearly production of milk, 2,802,761 lbs. Outfit comprises two No. 1 separators, 500 gal. milk vat, 400 gal. cream vat, 375 gal. churn, 300 gal. skim milk vat, 32 bottle tester, 10 horse-power engine, 15 horse-power boiler. Condition of building good and sanitary; of apparatus, good and clean; drainage and surroundings, good. Average test of milk, 4.8 per cent; yearly production of butter, 140,135 lbs.; color, medium; salt, medium; number of patrons, 135; market, Kalamazoo.

Barry County:

Cold Spring Creamery, Middleville, Mich. F. G. Clark, manager. Yearly receipts of milk, 6,000,000 lbs. Outfit comprises three separators, 400 gal. milk vat, 600 gal. cream vat, 500 gal. churn, 32 bottle tester, 10 horse-power engine, 20 horse-power boiler. Condition of building, good and clean; of apparatus, clean and thoroughly sanitary; surroundings, good with good drainage; average test of milk, 4.2 per cent; yearly production of butter, 270,000 lbs; color, medium; salt. medium; number of patrons, 350; market, Buffalo.

Freeport Creamery, Freeport, Mich. F. D. Brayton, manager. Yearly receipts of milk, 6,600,000 lbs. Outfit comprises four separators, 500 gal. milk vat. 400 gal. cream vat, 800 gal. churn, 40 bottle tester, 15 horse-power engine, 30 horse-power boiler. Sanitary condition of building, fine; of apparatus. clean and neat; of surroundings and drainage, good. Average test of milk, 4.3 per cent; yearly production of butter, 300,000 lbs; color, medium; salt, medium; number of patrons, 300; market, New York.

Hickory Corners Creamery, Hickory Corners, Mich. P. W. Lawrence, manager. Yearly receipts of milk, 76,000 lbs. Outfit comprises one No. 1 separator, 500 gal. milk vat, 400 gal. twin cream vat, 24 bottle tester, 375 gal. churn, one 10 horse-power engine, one 15 horse-power boiler. Condition of building, new and sanitary; of apparatus, new and clean; surroundings and drainage, good. Average test of milk, 4.1 per cent; yearly production of butter, 34,000 lbs; color medium; salt, medium; number of patrons, 35; market, Battle Creek.

Nashville Creamery, Nashville, Mich. Nashville Creamery Co., owners. Yearly receipts of milk, 1,200,000 lbs. Outfit comprises one No. 1 separator, 500 gal. milk vat, 300 gal. cream vat, 32 bottle tester, 10 horse-power engine, 25 horse-power boiler, 375 gallon churn. Condition of building, good and sanitary; of apparatus, clean and neat; surroundings and drainage, good; average test of milk, 4.2 per cent; yearly production of butter, 52,000 lbs. Color, medium; salt, medium; number of patrons, 45; market, Buffalo.

Woodland Creamery, Woodland, Mich. B. S. Halley, manager. Yearly receipts of milk, 3,000,000 lbs. Outfit comprises two separators, 500 gal. milk vat, 600 gal. cream vat, 400 gal. churn, 15 horse-power engine, 25 horse-power boiler, 32 bottle tester. Condition of building, good and clean in every department; of apparatus, neat and thoroughly sanitary; surroundings and drainage, good; average test of milk, 4.2 per cent; yearly production of butter, 130,000 lbs; color, medium; salt, medium; number of patrons, 150; market, Buffalo.

Berrien County:

Three Oaks Creamery, Three Oaks, Mich. H. P. Becker, manager. Yearly receipts of milk, 2,000,000 lbs. Outfit comprises three No. 1 separators, 500 gal. milk vat. 400 gal. cream vat, 300 gal. churn, 24 bottle tester, 10 horse-power engine, 15 horse-power boiler. Condition of building, sanitary and clean; of apparatus, fine; surroundings and drainage, good. Average test of milk, 4.4 per cent; yearly production of butter, 86,000 lbs; color, medium; salt, medium; number of patrons, 110.

Gratiot County:

Alma Creamery, Alma, Mich. G. N. Hutchinson, manager. Yearly receipts of milk, 3,360,000 lbs. Outfit consists of two No. 1 separators, 400 gal. milk vat, 400 gal. cream vat, 300 gal. churn, 10 horse-power engine, 15 horse-power boiler, 24 bottle tester. Condition of building, sanitary; of apparatus, good and clean; surroundings and drainage, good. Average test of milk, 4.2 per cent; yearly production of butter, 152,761 lbs; color, high; salt, medium; number of patrons, 500; market, New York.

Ionia County:

Lake Odessa Creamery. Lake Odessa, Mich. Roberts Bros., managers. Yearly receipts of milk, 2,200,000 lbs. Outfit comprises one No. 1 separator, 400 gal. milk vat, 300 gal. cream vat, 375 gal. churn, 10 horse-power engine, 15 horse-power boiler, 24 bottle tester. Condition of building, new and sanitary in every department; of apparatus, new, neat and clean; surroundings and drainage, good. Average test of milk, 4.2 per cent; yearly production of butter, 10,000 lbs; color, medium; salt, medium; number of patrons, 120; market, New York.

Lenawee County:

Cadmus Creamery, Cadmus, Mich. L. McLauter & Son, managers. Yearly receipts of milk, 1,606,000 lbs. Outfit comprises two separators, 600 gal. receiving vat, 200 gal. twin cream vat, 300 gal. churn, one butter worker, one 6 horse-power boiler, one 15 horse-power gasoline engine. Condition of building, good and sanitary; of apparatus, good and clean; surroundings and drainage, good. Average test of milk, 4.0 per cent; yearly production of butter, 73,000 lbs. Color, high; salt, high; number of patrons, 51; market, home.

Hudson Creamery, Hudson, Mich. H. E. Loyster, manager. Outfit comprises two No. 1 separators, 300 gal. receiving vat, 200 gal. ripener, two 250 gal. churns, one butter worker, 24 bottle tester, one 5 horse-power engine, one 16 horse-power boiler. Sanitary condition of building, fair; of machinery and utensils, good. Average test of milk, 4.1 per cent; yearly production of butter, 50.000 lbs; color, medium; salt, medium; market, Boston and Cleveland.

Locust Farm Creamery, Madison, Mich. A. B. Graham, manager. Yearly receipts of milk, 1,642,500 lbs. Outfit comprises one No. 1 separator, 400 gal. receiving vat, 150 gal. cream vat, 300 gal. churn, one butter worker, one 8 horse-power engine, one 15 horse-power boiler, one 32 bottle tester. Condition of building, good, sanitary in every department; of apparatus, clean and sanitary; surroundings and drainage, good. Average test of milk, 4.5 per cent; yearly production of butter, 73,000 lbs; of cream, 35,500 lbs.; number of patrons, 37; market, home.

Maple City Creamery, Adrian, Mich. Higbee & Hatcher, managers. Outfit comprises one No. 1 separator, two 300 gal. receiving vats, one milk heater, 200 gal. milk vat, 200 gal. cream vat, 300 gal. pasteurizer, 100 gal. cream pasteurizer, one bottle washer, one large ice vat, 100 gal. churn, one 8 horse-power engine, one 25 horse-power boiler. Condition of building, new, cement floors, first-class in every particular; of apparatus, new and nicely arranged; surroundings are first-class and drainage good. Capacity of creamery, 12,000 lbs. Commenced business about December 10.

Ottawa County:

Holland Creamery, Holland, Mich. C. J. Lockker, manager. Outfit comprises two No. 1 separators, 500 gal. receiving vat, two 300 gal. cream vats, one 300 gal. churn, 10 horse-power engine, 25 horse-power boiler, one 40 bottle tester. Building large; outfit neat and clean and nicely arranged. Capacity of creamery, 20,000 lbs; market, New York.

St. Joseph County:

Centreville Creamery, Centreville, Mich. R. M. Cauffman, manager. Outfit comprises one No. 1 separator, 500 gal. milk vat, 300 gal. cream vat, 32 bottle tester, 375 gal. churn, 10 horse-power engine, 15 horse-power boiler. Condition of building, new, neat and clean; of apparatus, new, thoroughly sanitary; surroundings and drainage, good. Average test of milk, 4.1 per cent; yearly production of butter, 34,000 lbs; color, medium; salt, medium; number of patrons, 36; market, Philadelphia.

Mendon Creamery, Mendon, Mich. Samuel Hoch, manager. Yearly receipts of milk, 3,000,000 lbs. Outfit comprises two separators, 500 gal. milk vat, 300 gal. cream vat, 32 bottle tester, 12 horse-power engine, 20 horse-power boiler, 250 gal. churn. Condition of building, good and sanitary; of apparatus, good and clean; surroundings and drainage. good. Average test of milk, 4.4 per cent; yearly production of butter, 130,000 lbs; color, medium; salt, high; number of patrons, 127; market, Philadelphia.

Riverside Creamery, Three Rivers, Mich. Riverside Creamery Co., managers. Yearly receipts of milk, 1,000,000 lbs. Outfit comprises one No. 1 separator, 500 gal. milk vat, 400 gal. cream vat, 24 bottle tester, 250 gal. churn. 12 horse-power engine, 15 horse-power boiler. Condition of building, new, sanitary in every department; of apparatus, new, neat and clean; surroundings, extra good; drainage, good. Average test of milk, 4.2 per cent; yearly production of butter, 45,000 lbs; color, medium; salt. medium; number of patrons, 35; market, home.

Allegan County:

Bates Cheese Factory, Moline, Mich. E. N. Bates, manager. Yearly receipts of milk, 2,100.000 lbs. Outfit consists of 700 gal. cheese vat, 32 hoop press, 4 horse-power engine, 4 horse-power boiler. Condition of building, new, nicely arranged, a model of convenience; of apparatus, fine in every particular; surroundings, good with good drainage. Yearly production of cheese, 210,000 lbs. Number of patrons, 70; market, home.

Hopkinsburg Cheese Factory, Hopkins Station, Mich. Mrs. Ida Mankin, manager. Yearly receipts of milk, 1,200 000·lbs. Outfit consists of 600 gal. cheese vat, 20 hoop gang press, 10 horse-power boiler. Condition of building, fair and sanitary; of apparatus, good and clean; of surroundings, fair, with good drainage. Yearly production of cheese, 120,000 lbs. Number of patrons, 40; market, home.

Springdale Cheese Factory, Hopkins Station, Mich. M. W. Hicks, manager. Yearly receipts of milk, 1,000.000 lbs. Outfit consists of 700 gal. cheese vat, 18 hoop press, 6 horse-power boiler. Condition of building, good, sanitary in every department; of apparatus, good and clean; of surroundings, extra good, good drainage. Yearly production of cheese, 100,000 lbs. Number of patrons, 46; market, Grand Rapids.

Lenawee County:

Bogard Cheese Factory, Adrian, Mich. Peter Bogard, manager. Yearly receipts of milk, 800,000 lbs. Outfit consists of 700 gal. cheese vat. 18 hoop press, 10 horse-power boiler. Condition of building, good and clean; of apparatus, extra clean and thoroughly sanitary; of surroundings, good, good drainage. Yearly production of cheese, 80,000 lbs. Number of patrons, 30; market, home.

Cadmus Cheese Factory, Cadmus, Mich. F. Potts, manager. Yearly receipts of milk, 700,000 lbs. Outfit consists of one 500 gal. cheese vat, one 20 hoop upright press, one curd sink. Condition of building. fair and fairly clean; of apparatus, good and clean; of surroundings, good, good drainage. Yearly production of cheese, 70,000 lbs; market, home.

Clayton Cheese Factory. C. C. Colvin & Co., managers; E. A. Blurton, cheese maker. Outfit consists of two 600 gal. cheese vats, one curd sink, one 15 hoop press, one 10 horse-power boiler; brand, Michigan Full Cream Cheese. Condition of building, utensils, surroundings and drainage, good. Yearly production of cheese, 125,000 lbs; market, Ohio and Indiana.

Hudson Cheese Factory, Hudson, Mich. D. W. Rhead & Co., managers; W. H. Hamp, cheese maker. Outfit consists of three 400 gal. cheese vats, one curd sink, one 20 hoop press, one 10 horse-power boiler; brand, Michigan Full Cream Cheese. Condition of buildings, apparatus, surroundings and drainage, good. Yearly output of cheese, 100,000 lbs; number of patrons, 40; market, Illinois.

Medina Cheese Factory, Medina, Mich. C. C. Colvin & Co., managers. Fred Bryan, cheese maker. Outfit consists of one 500 gal. cheese vat, one 600 gal. cheese vat, one curd sink, two 18 hoop gang presses, one 10 horse-power boiler. Condition of building, drainage, apparatus and surroundings, good. Yearly output of cheese, 200,000 lbs.; number of patrons, 45; brand, Michigan Full Cream Cheese; market, home and Indiana.

Riverside Cheese Factory, South Fairfield, Mich. E. L. Baker, manager. Yearly receipts of milk, 1,808,700 lbs. Outfit consists of three 600 gal. cheese vats, one curd sink, 35 hoop gang press, one 5 horse-power boiler. Condition of building, good, clean and sanitary; of apparatus, clean and neat; of surroundings and drainage, good. Yearly production of cheese, 181,870 lbs; number of patrons, 40; market, Grand Rapids.

Rollin Cheese Factory. Rollin, Mich. B. L. Peebles, manager and cheese maker. Outfit consists of two 500 gal. vats, one 19 hoop gang press, one curd sink, one 10 horse-power boiler. Condition of building and apparatus. good; of surroundings and drainage, fair; brand, Michigan Full Cream Cheese; number of patrons, 39. Yearly production of cheese, 100,000 lbs; market, Ohio.

Wolf Creek Cheese Factory, Wolf Creek, Mich. L. W. Baker, manager. Condition of buildings, good and clean; of apparatus, clean and thoroughly sanitary; of surroundings, good, good drainage. Outfit consists of one 800 gal. cheese vat, 24 hoop gang press, 20 horse-power boiler. Yearly receipts of milk, 1,000,000 lbs. Yearly production of cheese, 100,000 lbs. Brand. "Michigan Blue Ribbon." Number of patrons, 45; market, home.

The following eight cheese factories owned by George B. Horton, aggregate in yearly receipts of milk, 12,600,000 lbs. Yearly production of cheese, 1,260,000 lbs. Number of patrons, 339. Brand, "Horton's Michigan Cheese."

Canandaigua Cheese Factory, Canandaigua, Mich. George B. Horton, owner. Outfit consists of three 500 gal. cheese vats, 30 hoop upright press, one curd sink, one 6 horse-power boiler. Condition of building, good, clean and sanitary; of apparatus, clean and sanitary; of surroundings, good; good drainage.

Fairfield Cheese Factory, Fairfield, Mich. George B. Horton, owner.

Outfit consists of two 600 gal. cheese vats, one curd sink, one 20 hoop press, one 10 horse-power boiler. Condition of building, good and sanitary; of apparatus, thoroughly clean and sanitary; of surroundings, clean and good; good drainage.

Hudson Center Cheese Factory, Hudson Center, Mich. George B. Horton, owner. Outfit consists of three 400 gal. cheese vats, one curd sink, 22 hoop press, one 10 horse-power boiler. Condition of building, good and clean; of apparatus, clean and sanitary; of surroundings, clean; good drainage.

Jasper Cheese Factory, Fruit Ridge, Mich. George B. Horton, owner. Outfit consists of two 500 gal. vats, one curd sink, 40 hoop press. Condition of building, good and sanitary in every department; of apparatus, good and clean; of surroundings, good; good drainage.

Sand Creek Cheese Factory, Sand Creek, Mich. George B. Horton, owner. Outfit consists of two 700 gal. cheese vats, one curd sink, one 13 hoop press, one 20 hoop press. Condition of building, good and sanitary in every department; of apparatus, good and clean; of surroundings, good; good drainage.

Seneca Center Cheese Factory, Seneca Center, Mich. George B. Horton, owner. Outfit consists of two 500 gal. cheese vats, one curd sink, 25 hoop upright press, 20 hoop gang press. Condition of building, good and sanitary; of apparatus, clean, neat and sanitary; of surroundings, good; good drainage.

Weston Cheese Factory, Weston, Mich. George B. Horton, owner. Outfit consists of two 500 gal. cheese vats, one curd sink, 18 hoop upright press. Condition of buildings, good and sanitary in all departments; of apparatus, good and clean; of surroundings, good; good drainage.

Home Factory, Fruit Ridge, Mich. George B. Horton, owner. Outfit consists of two 100 gal. cheese vats, one curd sink, 32 hoop press. Condition of building, sanitary in every department; of apparatus, good and clean; of surroundings, good; good drainage.

Saginaw County:

Brant Cheese Factory, Brant, Mich. T. A. Cook, manager. Outfit consists of 900 gal. cheese vat, 20 hoop gang press, 10 horse-power boiler. Yearly receipts of milk, 600,000 lbs. Yearly production of cheese, 66,000 lbs. Condition of building, clean and sanitary in every department; of apparatus, good and clean; of surroundings, good; good drainage. Number of patrons, 40; market, home.

March Inspection.

Eaton County:

Charlotte Creamery, Charlotte, Mich. E. M. Lamons, manager. Yearly receipts of milk, 5,475,000 lbs., including skimming station at Brookfield. Outfit consists of three separators, 1 500 gal. receiving vat, 1 cream ripener, 1 300 gal. churn, 1 300 skim milk tank, 1 butter print, 1 starter can, 1 5 bar scale, 1 24 bottle tester, 1 8 H. P. engine, 1 12 H. P. boiler. Condition of building, fine, clean and thoroughly sanitary in every part; of surroundings, good and sanitary, good drainage; of apparatus, good and clean, nicely arranged. Average test of milk, 3.9 per cent. Yearly production of butter, 240,000 lbs; color, medium; salt. medium; number of patrons, 150; market, New York.

Washtenaw County:

Chelsea Creamery, Chelsea, Mich. A. H. Burner, manager. Yearly receipts of milk, 3,285,000 lbs. Outfit consists of 2 No. 1 separators, 1 400 gal. receiving vat, 1 pasteurizer, 1 cooler, 1 Climax milk heater, 1 skim-milk weigher, 1 400 gal. cream vat, 2 pumps. 1 No. 7 churn, 1 40 bottle tester. Condition of building, good and clean, cement floor, sanitary in every department; of apparatus, good and clean; of surroundings, good and sanitary, with good drainage. Yearly production of cream, 755,500 lbs. Average test of milk, 4.5 per cent; number of patrons, 120; market, Towar's Wayne County Creamery, Detroit.

Dexter Creamery, Dexter, Mich. Amerman Bros., managers. Yearly receipts of milk, 812,500 lbs. Average test of milk, 4.1 per cent. Outfit consists of 1 No. 1 separator, 1 400 gal. receiving vat, 1 400 gal. cream vat, 1 300 gal. churn, 8 H. P. engine, 15 H. P. boiler. Condition of building, good and sanitary in every particular; of apparatus, good and clean, nicely arranged; of surroundings, good and sanitary, with good drainage. Yearly production of butter, 40,600 lbs; color, medium; salt, medium; number of patrons, 65; market, Buffalo.

Wayne County:

Plymouth Creamery Co., Plymouth, Mich. D. D. Allen, manager. Yearly production of milk, 3,650,000 lbs. Outfit consists of 1 500 gal. receiving vat, 300 gal. cream vat, 2 No. 1 separators, 1 400 gal. cheese vat, 1 tempering vat, 250 gal. skim-milk vat, 1 20 H. P. boiler, 1 12 H. P. engine, 1 24 bottle tester. Condition of building, good, clean and sanitary in every department; of apparatus, fine, clean, neat and nicely arranged; of surroundings, good and sanitary, good drainage; average test of milk, 4.4 per cent; yearly production of butter, 165,500 lbs; color, medium; salt, high; number of patrons, 100; market, Buffalo.

F. D. Strecker Milk Station, Redford. Mich. L. Garden, manager. Yearly production of milk, 1,460,000 lbs. Outfit consists of 1 cooling tank, 1 water heater. Condition of building, fair and fairly clean; of apparatus, fair; of surroundings, good; number of patrons, 38; market, 54 Russell street, Detroit.

Greenfield Creamery, Detroit, Mich. Gerrard Bros., managers. Yearly receipts of milk, 1,044,000 lbs. Outfit consists of 4 ice tanks, 1 50 gal. churn, 1 Mason butter worker, 1 bottle filler, 1 24 bottle tester, engine and boiler. Condition of building, first-class, sanitary in every particular; of apparatus, good and clean, nicely arranged; of surroundings, fine, sewer drainage; average test of milk, 3.8 per cent; receive milk from eight stations; retails milk, skim-milk, cream and butter; has eight retail wagons in fair condition.

Detroit Creamery Company, at Sheldon Station, Detroit, Mich. J. D. M. Savage, manager. Outfit consists of 2 receiving vats, 550 gal. capacity, 1 12 bottle tester, scales and weigh can; yearly receipts of milk, 912,500 lbs. Condition of building, good and clean, sanitary in every part; of apparatus, good and clean; of surroundings, fair, fair drainage; milk shipped to Detroit; number of patrons, 21.

Detroit Creamery Co., Inkster Receiving Station, Detroit, Mich. Thomas Ellis, manager. Yearly receipts of milk, 1,551,000 lbs. Outfit consists of 2 350 gal. vats, weigh can and scales, 1 water heater, 1 12 bottle tester. Condition of building, good, clean and sanitary; of apparatus, clean in every particular; of surroundings, fairly sanitary, fair drainage; average test of milk, 4.0 per cent; number of patrons, 30; milk shipped to Detroit.

Detroit Creamery Company, Dearborn Milk Receiving Station, Dearborn, Mich. Postoffice, Detroit. J. J. Asenmacher, manager. Yearly receipts of milk, 1,203,000 lbs. Outfit consists of 2 ice cooling tanks, in fair condition. Condition of building, fair, and fairly clean; of apparatus, fairly clean; of surroundings, fair with good drainage. Number of patrons, 31. Market Detroit Creamery Co.

Sand Hill Milk Station, Sand Hill. Postoffice, Detroit, Mich. W. Sauter, manager. Yearly receipts of milk, 2,500,000 lbs. Outfit consists of 3 500 gallon cooling vats, 1 water heater, 1 12 bottle tester. Condition of building, good, clean and sanitary; of apparatus, clean, good drainage. Average test of milk, 4.0 per cent. Market ship milk to Towar's Wayne County Creamery, Detroit.

Hillsdale County:

Pittsford Cheese Factory, Pittsford, Mich. A. J. Tew, manager. Yearly receipts of milk, 1,000,000 lbs. Outfit consists of 2 600 gal. cheese vats, 1 18 hoop gang press, 1 curd sink, 1 6 H. P. boiler and scales. Condition of building, extra good and clean, sanitary in every particular; apparatus, new, clean and neat; of surroundings, dry and clean with good drainage; average test of milk, 3.3 per cent; yearly production of cheese, 100,000 lbs; brand, "Michigan Full Cream Cheese"; number of patrons, 50; market, Indiana.

Montcalm County:

Stanton Cheese Factory, Stanton, Mich. W. J. Pettit, cheese maker. Yearly receipts of milk, 600,000 lbs. Outfit consists of 1 500 gal. cheese vat, 1 curd sink, 1 15 H. P. boiler, 1 20 hoop gang press. Condition of building, good, sanitary and clean; of apparatus, new and clean; of surroundings, good and sanitary, good drainage; yearly production of cheese, 60,000 lbs; number of patrons, 27; market, Chicago.

Wayne County:

Warner's Plymouth Cheese Factory, Plymouth, Mich. F. M. Warner, manager. Yearly receipts of milk, 1,460,000 lbs. Outfit consists of 3 600 gal. cheese vats, 1 curd sink, 2 50 hoop presses, 1 8 H. P. boiler. Condition of building, good, sanitary in every part; curing room, good and clean; of apparatus, good and clean; of surroundings, good and sanitary, drainage, good. Brand, F. M. Warner's Oakland Co. Cheese. Average test of milk, 4.0 per cent; yearly production of cheese, 146,000 lbs; number of patrons, 28.

April Inspection.

Barry County:

Freeport Creamery, Freeport, Mich. F. D. Brayton, manager. Yearly receipts of milk, 7,000,000 lbs. Outfit consists of 4 No. 1 separators, 1 500 gal. receiving vat, 1 375 gal. churn, 1 400 gal. churn, 1 500 gal. cream vat, 1 32 bottle tester, 1 15 H. P. engine, 1 25 H. P. boiler. Condition of building, fair and sanitary; of apparatus, good and clean; of surroundings, good, with good drainage. Average test of milk, 4.2 per cent. Yearly production of butter, 325,000 lbs. Color, medium; salt, medium. Number of patrons, 450. Market, New York.

Hillsdale County:

Litchfield Creamery, Litchfield, Mich. R. G. Washburn, manager. Yearly receipts of milk, 3,366,600 lbs. Outfit consists of 2 separators, 1 400 gal. receiving vat, 1 400 gal. cream vat, 1 300 gal. skim-milk vat, 1 450 gal. churn, 1 Ideal skim-milk weigher, 1 24 bottle tester, 1 10 H. P. engine, 1 20 H. P. boiler. Condition of building, making improvements, cement floors, drains will be in a first-class sanitary condition; of apparatus, good, clean and neat, latest improved system of cold storage; of surroundings, improving, will be first-class, good drainage. Average test of milk, 4.4 per cent. Yearly production of butter, 159,000 lbs. Color, high; salt, medium. Number of patrons, 200. Market, Philadelphia.

Monroe County:

Excelsior Creamery, Ida, Mich. W. G. Hoffman, manager. Yearly receipts of milk, 1,400,000 lbs. Outfit consists of 2 No. 1 separators, 1 400 gal. receiving vat, 2 200 gal. cream vats, 1 400 gal. churn, 1 6 H. P. engine, 1 12 H. P. boiler. Condition of building, good and clean, sanitary in every particular; of apparatus, good, neat and clean; of surroundings, good, with fair drainage. Average test of milk, 3.6 per cent. Yearly production of butter, 66,000 lbs. Color, medium; salt, light. Number of patrons, 100. Market, Toledo.

Schneurstein Milk Depot, Monroe, Mich. H. C. Schneurstine, manager. Yearly receipts of milk, 440,000 lbs. Condition of building, good and sanitary; of apparatus, good; of surroundings, extra good, good drainage. Average test of milk, 3.3 per cent. Retails milk and cream; 3 delivery wagons.

Van Buren County:

Decatur Creamery, Decatur, Mich. Martin Knoll, manager. Yearly receipts of milk, 1,280,000 lbs. Outfit consists of 1 separator, 1 500 gal. receiving vat, 1 400 gal. cream vat, 1 300 gal. churn, 1 24 bottle tester, 1 10 H. P. engine, 1 15 H. P. boiler. Condition of building, good, clean and sanitary in every part; of apparatus, clean; of surroundings, good, with fair drainage. Average test of milk 4.2 per cent. Yearly production of butter, 61,000 lbs. Color, medium; salt, medium. Number of patrons, 100. Market, Philadelphia.

Livingston County:

Michigan Condensed Milk Co., Howell, Mich. Daily receipts of milk, 100,000 lbs. Condition of building, fine, clean and sanitary in every particular; of apparatus, extra clean and thoroughly cleansed each day; of surroundings, good and sanitary, good drainage. Average test of milk, 4.7 per cent. Daily production, 55,000 cans condensed milk. Number of patrons, 900. Market, New York. Has 75 employes. All cans manufactured in factory. Automattic solderer, labeler, filler and sealer. No milk received that is below 3.0 per cent. Factory and outfit up to date in every particular.

Berrien County:

Niles Cheese Factory, Niles, Mich. F. Tranger, manager; M. H. Stephenson, cheese maker. Yearly receipts of milk, 600,000 lbs. Outfit consists of 1 600 gal. cheese vat, 1 12 hoop gang press, 1 12 bottle tester, 1 15 H. P. boiler. Condition of building, good, clean and sanitary in every particular; of apparatus, good and clean; of surroundings, good, with extra good drainage. Average test of milk, 4.2 per cent. Yearly production of cheese, 63,000 lbs. Number of patrons, 20. Market, home.

Hillsdale County:

Bennett Cheese Factory, Hudson, Mich. O. F. Foster, owner; M. M. Hinckley, cheese maker. Yearly receipts of milk, 3,295,000 lbs. Outfit consists of 3 cheese vats, 1 curd sink, 1 40 hoop gang press, 1 6 H. P. boiler. Condition of building, good, in a fine sanitary condition; of apparatus, good and clean in every particular; of surroundings, good and sanitary, with good drainage. Average test of milk, 4.0 per cent. Yearly production of cheese, 173,000 lbs. Brand, Michigan Full Cream Cheese. Number of patrons, 150. Market, Illinois.

Camden Cheese and Butter Factory, Camden, Mich. F. M. Smith, manager. Yearly receipts of milk, 1,095,000 lbs. Outfit consists of 2 separators, 2 500 gal. cheese vats, 1 curd sink, 1 22 hoop gang press, 1 300 gal. churn, 1 24 bottle tester, 1 butter worker, 1 8 H. P. engine, 1 12 H. P. boiler. Condition of building, good, clean and sanitary, water from spring; of apparatus, good and clean; of surroundings, good with good drainage. Average test of milk, 4.1 per cent. Yearly production of cheese, 115,000 lbs. Number of patrons, 40. Market, Indiana. Creamery is not running.

Lenawee County:

Hudson Cheese Factory, Hudson, Mich. D. W. Rhead, owner. Yearly receipts of milk, 1,250,000 lbs. Outfit consists of 3 300 gal. cheese vats, 1 33 hoop gang press, 1 curd sink, 1 4 H. P. boiler. Condition of building, fair, and fairly clean, will improve soon; of apparatus, good and clean, all in a fair sanitary condition; of surroundings, fair, with good drainage. Yearly production of cheese, 131,000 lbs. Number of patrons, 80. Market, Indiana.

Livingston County:

Hamburg Cheese Factory, Hamburg, Mich. C. G. Switzer, manager. Outfit consists of 2 500 gal. cheese vats, 1 curd sink, 1 20 hoop gang press, 1 8 H. P. boiler, 1 12 bottle tester. Condition of building, good, clean and sanitary; of apparatus, good and clean; of surroundings, good, with good drainage. Expects to start factory May 5, 1903.

Monroe County:

Grape Cheese Factory, Grape, Mich. D. A. Jenkins, owner. Yearly receipts of milk, 1.277,000 lbs. Outfit consists of 2 cheese vats, 1000 gal. capacity, 1 20 hoop gang press, 1 curd sink, 1 24 bottle tester, 1 6 H. P. boiler. Condition of building, good, clean and sanitary; of apparatus, good and clean; of surroundings, clean, dry; drainage, good. Average test of milk, 3.6 per cent. Yearly production of cheese, 141,000 lbs. Number of patrons, 50. Market, Toledo.

Monroe Butter and Cheese Co., Monroe, Mich. J. C. Sterling, manager. Yearly receipts of milk, 2,900,000 lbs. Outfit consists of 2 No. 1 separators, 1 400 gal. receiving vat, 1 375 gal. churn, 1 300 gal. cream vat, 1 butter print, 1 32 bottle tester, 1 6 H. P. engine, 1 12 H. P. boiler. Condition of building, clean and sanitary in every particular; of apparatus, clean and neat; of surroundings, good with good drainage. Average test of milk, 3.4 per cent. Yearly production of butter, 132,000 lbs. Color, medium; salt, medium. Market, home.

Lulu Cheese Factory, Lulu, Mich. Geiger and Smith, managers. Yearly receipts of milk, 1,000,000 lbs. Outfit consists of 1 900 gal. cheese vat, 1 curd sink, 1 12 bottle tester, 1 curd mill, 1 10 H. P. boiler. Condition of building, good, sanitary in every particular; of apparatus, good and clean; of surroundings, good, with fair drainage. Average test of milk, 3.6 per cent. Yearly production of cheese, 90,000 lbs. Number of patrons, 50. Market, home.

LaSalle Cheese Factory, LaSalle, Mich. C. E. Kirby, owner. Yearly receipts of milk, 900,000 lbs. Outfit consists of 2 500 gal. cheese vats, 1 curd sink, 1 14 hoop gang press, 1 10 bottle tester, 1 10 H. P. boiler. Condition of building, good and clean, fine sanitary condition; of apparatus, good and clean, nicely arranged; of surroundings, good, fair drainage. Average test of milk, 3.4 per cent. Yearly production of cheese, 90,000 lbs. Number of patrons, 36. Market, home.

Euclid Cheese Factory, Petersburg, Mich. O. T. Rose, secretary; D. E. Barker, cheese maker. Yearly receipts of milk, 550.000 lbs. Outfit consists of 1 500 gal. cheese vat, 1 curd sink, 1 18 hoop gang press, 1 8 H. P. boiler. Condition of building, good and clean, sanitary in every particular; of apparatus, good, clean and neat; of surroundings, good, with good drainage. Yearly production of cheese, 56,000 lbs. Makes a high grade of cheese. Number of patrons, 40. Market, home.

Oakland County:

South Lyon Cheese Factory, South Lyon, Mich. H. A. Smith, owner. Daily receipts of milk, 3,000 lbs., capacity, 10,000 lbs. Outfit consists of

1 700 gal. cheese vat, 1 200 gal. cheese vat, 1 curd sink, 1 20 hoop gang press, 1 8 H. P. boiler. Condition of building, extra good, clean and sanitary in every particular; of apparatus, good and clean; of surroundings, good, with fair drainage. Average test of milk, 3.5 per cent. Daily production of cheese, 300 lbs. Number of patrons, 30. Market, home.

Walled Lake Cheese Factory, Walled Lake, Mich. H. A. Smith, owner; W. Allen, cheese maker. Yearly receipts of milk, 900,000 lbs. Outfit consists of 1 600 gal. cheese vat, 1 curd sink, 6 H. P. boiler. Condition of building, good, clean and sanitary; of apparatus, good and clean; of surroundings, good, with fair drainage. Average test of milk, 3.6 per cent. Yearly production of cheese, 90,000 lbs. Number of patrons, 28. Market, home.

Wixom Cheese Factory, Wixom, Mich. H. A. Smith, owner. Yearly receipts of milk, 2.190,000 lbs. Outfit consists of 1 800 gal. cheese vat, 1 400 gal. cheese vat, 1 curd sink, 1 24 hoop gang press, 1 6 H. P. boiler, 1 12 bottle tester. Milk from South Lyon and Walled Lake cheese factories tested at Wixom factory. Condition of building, good, clean and sanitary in every part; of apparatus, neat and clean; of surroundings, good and sanitary, good drainage. Average test of milk, 3.6 per cent. Yearly production of cheese, 220,000 lbs. Number of patrons, 42. Market, home.

Van Buren County:

Hartford Cheese Factory, Hartford, Mich. S. M. Carpp. owner. Yearly receipts of milk, 1,000,000 lbs. Outfit consists of 1 500 gal. cheese vat, 1 curd sink, 1 12 hoop gang press, 1 32 bottle tester, 1 12 H. P. boiler. Condition of building, good, clean and sanitary in every part; of apparatus, good and clean; of surroundings, good, with good drainage. Average test of milk, 4.5 per cent. Yearly production of cheese, 110,000 lbs. Number of patrons. 50. Market, home. Buys milk by Babcock test.

May Inspection.

Genesee County:

Flint Sanitary Milk Co., Flint, Mich. T. H. Baker, manager. Yearly receipts of milk, 1,825,000 lbs. Outfit consists of 2 No. 1 separators, 1 600 gal. receiving vat, 1 400 gal. cream vat, 1 200 gal. skim-milk vat, 1 250 gal. churn, 1 single set Miller pasteurizers, 1 12 tube automatic bottler, 1 bottle washer and sterilizer, 1 can washer and sterilizer, 1 ice crusher, 1 power ice cream freezer, 1 18 H. P. engine, 1 25 H. P. boiler, 1 compress air machine, 5 delivery wagons in fine condition. Condition of buildings, extra good, clean and sanitary in every part; of apparatus, fine and extra clean, nicely arranged for handling a large amount of milk; of surroundings, fine, sewer connections give good drainage. Average test of milk, 3.8 per cent. Yearly production, 1,270,000 lbs. pasteurized milk, 60,000 lbs. pasteurized cream and 200,000 lbs. butter. Number of patrons, 35. Market, sells butter to the Pontiac asylum.

Gibsonville Creamery, Gibsonville. Mich. H. Gibson, manager. Yearly receipts of milk, 1,400,000 lbs. Outfit consists of 1 Alpha separator, 1

400 gal. receiving vat, 1 300 gal. box churn, 1 Mason butter worker, 1 24 lb. butter print, 1 24 bottle tester. Condition of building, good and sanitary; of apparatus, good and clean; of surroundings, good, with extra good drainage. Average test of milk, 4.2 per cent. Yearly production of butter, 63,400 lbs. Color, high; salt, medium. Number of patrons, 35. Market, Buffalo.

Goodrich Creamery, Goodrich, Mich. W. A. Clark, manager. Yearly receipts of milk, 2,070,000 lbs. Outfit consists of 1 No. 1 separator, 1 600 gal. receiving vat, 1 250 gal. cream vat, 1 300 gal. churn, 1 24 bottle tester, 1 butter print, 1 automatic skim-milk weigher, 1 15 H. P. engine, 1 25 H. P. boiler. Condition of buildings fairly good and clean, sanitary in every part; of apparatus, good and clean; of surroundings, good, with good drainage. Average test of milk, 3.4 per cent. Yearly production of butter, 90,000 lbs. Color, medium; salt, medium. Number of patrons, 65. Market, New York.

Macomb County:

Chesterfield Creamery, Chesterfield, Mich. C. T. Jordan, manager. Yearly receipts of milk, 11,000,000 lbs. Outfit consists of 2 No. 1 separators, 1 200 gal. receiving vat, 2 300 gal. cream ripeners, 2 450 gal. churns, 1 20 H. P. boiler; 1 12 H. P. engine. 150 gal. cream vat, 1 32 bottle tester. Condition of building, good, clean and sanitary; of apparatus, good and clean; of surroundings, good, with good drainage. Average test of milk, 4.1 per cent. Yearly production of butter, 500,000 lbs. Color, medium; salt, medium. Number of patrons, 415. Market, New York, Philadelphia and Detroit. The receipts of milk include the milk received at their stations at Mt. Clemens, Mead and Waldenburg.

Mead Station. Outfit consists of 2 No. 1 separators, 1 400 gal. receiving vat, 1 400 gal. cream vat, 1 10 H. P. boiler, 1 12 bottle tester. C. T. Jordan, Jr., superintendent.

Waldenburg Station. Outfit consists of 2 No. 1 separators, 1 Russian separator, 1 400 gal. receiving vat, 1 400 gal. cream vat, 1 12 H. P. boiler, 1 12 bottle tester. C. J. Jordan, Jr., superintendent.

Mt. Clemens Skimming Station, Mt. Clemens, Mich. Chesterfield Creamery Co., managers. Yearly receipts of milk, 1,600,000 lbs. Outfit consists of 1 200 gal. receiving vat, 1 No. 1 separator, 1 200 gal. cream vat, 1 32 bottle tester, 1 12 H. P. boiler. Condition of buildings, extra good, clean and sanitary in every particular; of apparatus, good; of surroundings, good, with sewer drainage. Average test of milk, 4.0 per cent. Number of patrons, 48. Ships cream to Chesterfield.

Mt. Clemens Milk Station, Mt. Clemens. Mich. Detroit Creamery Co., owners; J. W. Graham, manager. Yearly receipts of milk, 1,250,000 lbs. Outfit consists of 4 800 gal. milk vats, 1 ice vat, 40 10 gal. can capacity, 1 ice vat, 10 10 gal. can capacity, 1 water heater. Condition of building, good and clean, thoroughly sanitary; of apparatus, good, clean and thoroughly sterilized; of surroundings, good, with extra good drainage. Average test of milk, 3.5 per cent. Number of patrons, 27. Market, ships milk and cream to Detroit. Cools in ice tank to 40° F.

New Baltimore Creamery, New Baltimore, Mich. C. Schlasser, manager. Yearly receipts of milk, 2,100,000 lbs. Outfit consists of No. 1 separator, 1 400 gal. receiving vat, 1 400 gal. cream vat, 1 400 gal. churn, 1 Mason butter worker, 1 butter printer, 1 20 bottle tester, 1 8 H. P. engine. 1 12 H. P. boiler. Condition of building, good, clean and sanitary; of apparatus, good and clean; of surroundings, good, with extra good drainage. Average test of milk, 3.9 per cent. Yearly production of butter, 91,000 lbs. Color, high; salt, medium. Number of patrons, 95. Market, Detroit. Sells in tubs and prints.

Oakland County:

Royal Oak Milk Station, Royal Oak, Mich. Detroit Creamery Co., managers. Yearly receipts of milk, 1,460,000 lbs. Condition of building, good and clean; of apparatus, good; of surroundings, dry, with fair drainage. Average test of milk, 3.8 per cent. Number of patrons, 22. Market, Detroit.

St. Clair County:

St. Clair Creamery and Sanitary Condensing Co., St. Clair, Mich. C. H. Otter and J. F. Ruff, proprietors. Yearly receipts of milk, from St. Clair dairymen, 1,825,000 lbs; from Hillsdale Milk Station, 1,800,000 lbs; from Rattle Run Milk Station, 1,460,000 lbs. Total, 5.085,000 lbs. Yearly production of butter, 60,000 lbs. Balance of milk used for cream, ice cream and condensing purposes. All milk and cream pasteurized. Market, Detroit, Port Huron, Buffalo and Boston. Building divided into three departments, creamery, ice cream and condensing; each department clean and sanitary in every particular; apparatus in each department in fine condition; cold storage room large and conveniently arranged. Sanitary conditions of surroundings, good; drainage, city sewer system.

In creamery department, outfit consists of 1 400 gal. receiving vat, 2 No. 1 separators, 1 400 gal. cream ripener. 1 600 gal. churn, 1 400 gal. pasteurizer, 1 80 gal. starter vat, 1 200 gal. skim-milk pasteurizer, 1 air compresser, 1 butter print, 1 24 bottle tester, 1 12 H. P. engine, 1 30 H. P. boiler.

In condensing department, outfit consists of 2 hot wells, capacity, 240 gallons, 1 vacuum pan, capacity 4,000 lbs.. 1 600 gal. milk vat, 1 vacuum pump, 1 12 can rotary cooler, 1 60 H. P. boiler.

In ice cream department, outfit consists of 1 power ice cream freezer, 1 power ice crusher, 4 cooling vats, capacity, 100 cans.

Hillsdale Milk Station. Outfit consists of 1 No. 1 separator, 1 300 gal. receiving tank, 1 300 gal, pasteurizer, 1 10 H. P. boiler. Otter and Ruff, proprietors; A. Radakee, manager.

Rattle Run Milk Station. Outfit consists of 1 No. 1 separator, 1 300 gal. receiving vat, 1 10 H. P. boiler. Otter and Ruff, proprietors; F. Jackson, manager.

Genesee County:

Richards Cheese Factory, Flint, R. F. D. No. 3, Mich. Richards & Sons, owners and managers. Yearly receipts of milk, 1,200,000 lbs. Outfit consists of 1 750 gal. cheese vat, 1 500 gal. cheese vat, 1 18 hoop gang press, 1 6 hoop upright press, 1 6 H. P. boiler. Condition of building, good, clean and sanitary; of apparatus, clean and neat; of surroundings, good, with good drainage. Average test of milk, 3.4 per cent. Yearly production of cheese, 120,000 lbs. Number of patrons, 27. Market, home.

Oakland County:

Farmington Home Factory, Farmington, Mich. Fred M. Warner, owner and manager. Yearly receipts of milk, 2,000,000 lbs. Outfit consists of 1 500 gal. cheese vat, 1 800 gal. cheese vat, 1 curd sink, 2 gang presses, 15 hoop each, 1 6 H. P. boiler, 1 32 bottle tester. Condition of building, good, clean and sanitary in every particular; of apparatus, good and clean; curing room in fine condition; of surroundings, good, clean and sanitary, with good drainage. Average test of milk, 3.5 per cent. Yearly production of cheese, 200,000 lbs. Number of patrons, 39. Market, home. Brand, Warner's Oakland County Cheese. Makes Cheddar cheese.

Powers Cheese Factory, Farmington, R. F. D. No. 2, Mich. J. D. Dennis, manager. Yearly receipts of milk, 1,600,000 lbs. Outfit consists of 1 750 gal. cheese vat, 1 curd sink, 1 curd mill, 1 15 hoop gang press, 1 15 H. P. boiler. Condition of building, good, new and up-to-date in every particular, thoroughly sanitary; of apparatus, good, new and clean; of surroundings, good and sanitary, good drainage. Average test of milk, 3.4 per cent. Yearly production of cheese, 160,000 lbs. Number of patrons, 29. Market, Detroit. Makes Cheddar cheese.

Franklin Cheese Factory, Franklin, Mich. F. M. Warner, owner and manager. Yearly receipts of milk, 1,200,000 lbs. Outfit consists of 1 curd mill, 1 600 gal. cheese vat, 1 500 gal. cheese vat, 1 curd sink, 1 18 hoop gang press, 1 12 bottle tester, 1 4 H. P. boiler. Condition of building, good, clean and sanitary in every part; of apparatus, good and clean; of surroundings, good, sanitary, with good drainage. Average test of milk, 3.6 per cent. Yearly production of cheese, 120,000 lbs. Number of patrons, 34. Market, home. Makes Cheddar cheese.

Grand Blanc Cheese Factory, Grand Blanc, Mich. H. R. Dewey, manager. Yearly receipts of milk, 800,000 lbs. Outfit consists of 2 400 gal. cheese vats, 1 curd sink, 2 16 hoop gang presses, 1 8 H. P. boiler. Condition of building, good and clean, sanitary in every part; of apparatus, good and clean; of surroundings, good, with good drainage. Average test of milk, 3.3 per cent. Yearly production of cheese, 80,000 lbs. Number of patrons, 35. Market, home.

Milford Cheese Factory, Milford, Mich. J. Wise, manager. Yearly receipts of milk, 600,000 lbs. Outfit consists of 1 500 gal. cheese vat, 1 curd sink, 1 curd mill, 1 20 hoop gang press, 1 8 bottle tester, 1 12 H. P. boiler, 1 10 H. P. engine. Condition of building, good, clean and sanitary; of apparatus, clean; of surroundings, good, with good drainage. Average test of milk, 3.4 per cent. Yearly production of cheese, 60,000 lbs. Number of patrons, 19. Market, home.

New Hudson Cheese Factory, New Hudson, Mich. E. J. Rice, manager. Yearly receipts of milk, 1,200,000 lbs. Outfit consists of 1 600 gal. cheese vat, 1 300 gal. cheese vat, 1 curd sink, 1 curd mill, 1 12 H. P. boiler, 1 10 bottle tester. Condition of building, good, clean and sanitary in every particular; of apparatus, good and clean; of surroundings, good, dry and sanitary in every part. Average test of milk, 3.3 per cent. Yearly production of cheese, 121,000 lbs. Number of patrons, 40. Market, home. Makes Cheddar cheese.

Novi Cheese Factory, Novi, Mich. F. M. Warner, owner and manager. Yearly receipts of milk, 850,000 lbs. Outfit consists of 1 700 gal. cheese vat, 1 500 gal. cheese vat, 1 curd sink, 1 16 hoop gang press, 1 curd mill, 1 8 H. P. boiler. Condition of building, good, clean and sanitary in every particular; of apparatus, good and clean; of surroundings, good and sanitary, good drainage. Average test of milk, 3.3 per cent. Yearly production of cheese, 82,000 lbs. Number of patrons, 26. Market, home. Makes Cheddar cheese.

Wayne County:

Northville Condensing and Cheese Factory, Northville, Mich. Warner & Richardson, owners and managers. Yearly receipts of milk, 2,000,000 lbs. Outfit consists of 1 750 gal. cheese vat, 1 500 gal. cheese vat, 1 curd sink, 1 28 hoop gang press, 1 curd mill, 1 12 bottle tester, 1 12 H. P. boiler, 1 6 H. P. engine in cheese factory, and 2 hot wells, 1 condensing pan, 1 vacuum pump, 1 700 gal. receiving vat, 1 10 can cooling vat in condenser. Condition of building, good, clean and sanitary; of apparatus, good and clean; of surroundings, good, with good drainage. Average test of milk, 3.6 per cent. Yearly production of cheese, 150,000 lbs. and 50,000 lbs. condensed milk. Number of patrons, 50. Market, home and Detroit.

June Inspection.

Genesee County:

Davison Creamery, Davison, Mich. A. A. Armstrong, manager. Outfit consists of 2 300 gal. cream vats, 2 300 gal. churns, 1 butter worker, 1 200 bottle test churn, 1 6 H. P. engine, 1 10 H. P. boiler. Condition of buildings, fair and fairly clean; of apparatus, fair; of surroundings, good, with good drainage. Yearly production of butter, 34,500 lbs. Color, medium; salt, medium. Number of patrons, 100. Market, home and New York.

Lapeer County:

Lapeer Creamery, Lapeer, Mich. Towers Wayne County Creamery Co., managers. Yearly receipts of milk, 2.500,000 lbs. Outfit consists of 1 400 gal. receiving vat, 2 No. 1 separators, 1 450 gal. churn, 1 400 gal. cream ripener, 1 pasteurizer, 1 compressed air pump, 1 automatic skim-milk weigher, 1 400 gal. skim-milk vat, 1 24 bottle tester, 1 15 H. P. engine, 1 20 H. P. boiler. Condition of buildings, new, and extra good and clean; of apparatus, good, clean and nicely arranged; of surroundings, good, with private sewer system. Average test of milk, 4.1 per cent. Yearly production of butter, 110,000 lbs. Color, natural; salt, light. Number of patrons, 180. Market, New York.

Macomb County:

New Haven Creamery Co., New Haven, Mich. H. A. Kern, manager. Yearly receipts of milk, 2,500,000 lbs. Outfit consists of 1 No. 1 separator. 1 400 gal. receiving vat, 1 200 gal. cream vat, 1 12 H. P. boiler, 1 24 bottle tester. Condition of buildings, good; of apparatus, good; of surroundings, good, with good drainage. Average test of milk, 4.1 per cent. Yearly production of butter, 114,000 lbs. Color, medium; salt, medium. Number of patrons, 105. Market, Philadelphia.

New Haven Skimming Station. W. Rowley, manager. Yearly receipts of milk, included in New Haven Creamery. Outfit consists of 1 No. 1 separator, 1 400 gal. receiving vat, 1 200 gal. cream vat, 1 24 bottle tester. 1 12 H. P. boiler. Condition of buildings, good; of apparatus, good; of surroundings, good. Average test of milk, 4.1 per cent. Number of patrons, 85.

Richmond Creamery, Richmond, Mich. G. W. Grennis, manager. Yearly receipts of milk, 2,400,000 lbs. Outfit consists of 1 No. 1 separator, 1 150 gal. recieving tank, 1 300 gal. cream vat, 1 375 gal. churn, 1 250 gal. skim-milk vat, 1 250 gal. butter-milk vat, 1 5 H. P. engine, 1 10 H. P. boiler. 1 24 bottle tester. Condition of buildings, new and complete in arrangements for good sanitary condition; of surroundings, good, with good drainage; of apparatus, new and clean. Average test of milk, 3.8 per cent. Yearly production of butter, 110,000 lbs. Color, medium; salt, medium. Number of patrons, 120. Market, New York.

Oakland County:

Oxford Creamery. Oxford, Mich. C. L. Randall, manager. Outfit consists of 2 250 gal. cream vats, 1 350 gal. churn, 1 revolving butter worker, 1 200 bottle churn, 1 6 H. P. engine, 1 15 H. P. boiler. Condition of buildings, fair, but clean and sanitary; of apparatus, good and clean; of surroundings, good, with good drainage. Yearly production of butter, 45,000 lbs. Color, medium; salt, medium. Number of patrons. 130. Market, Buffalo and Cleveland.

Saginaw County:

Orville Creamery. Orville, Mich. Ezra Fry, manager. Yearly receipts of milk, 1,600,000 lbs. Outfit consists of 1 400 gal. receiving vat, 1 No. 1 separator, 1 400 gal. cream vat, 1 400 gal. churn, 1 300 gal. skim-milk vat, 10 H. P. engine, 1 15 H. P. boiler, 1 24 bottle tester. Condition of buildings, good and clean, good drainage; of apparatus, good and clean; of surroundings, good, with good drainage. Average test of milk, 3.4 per cent. Yearly production of butter. 70,000 lbs. Color, medium; salt, medium. Number of patrons, 35. Market, home.

Orville Creamery, Orville, Mich. Ezra Fry, manager. Yearly receipts of milk, 1,640,000 lbs. Outfit consists of 1 400 gal. receiving vat, 1 No. 1 separator. 1 400 gal. cream vat, 1 400 gal. churn, 1 10 H. P. engine, 1 15 H. P. boiler, 1 24 bottle tester. Condition of buildings, good, clean and sanitary in every part; of apparatus. good and clean; of surroundings, good, with fair drainage. Average test of milk, 3.8 per cent. Yearly production of butter. 71,000 lbs. Color, medium; salt, medium. Number of patrons, 65. Market, home.

Lawndale Skimming Station, Saginaw, Mich. C. F. Burger, manager. Outfit consists of 1 200 gal. receiving vat, 1 No. 1 separator, 1 10 H. P. boiler. Condition of buildings, good, clean and sanitary; of apparatus, good and clean; of surroundings, good. Average test of milk, 3.7 per cent.

Shiawassee County:

Henderson Creamery, Henderson, Mich. C. H. Washburn, manager; R. G. Sorter, butter maker. Yearly receipts of milk, 6,000,000 lbs. Condition of buildings, good and sanitary in every part; of apparatus, good and clean; of surroundings, good, with good drainage. Average test of milk, 4.1 per cent. Yearly production of butter, 285,000 lbs. Color, medium; salt, medium. Number of patrons. 250. Market, New York.

St. Clair County:

Adair Skimming Station, Richmond, Mich. T. Muchelburg, manager. Outfit consists of 1 No. 1 separator, 1 300 gal. receiving vat, 1 200 gal. cream vat, 1 10 H. P. boiler, 1 12 bottle tester. Condition of building, good, clean and sanitary; of apparatus, good and clean; of surroundings, good, with good drainage. Average test of milk, 3.8 per cent. Number of patrons, 72. Market, Richmond Creamery.

Capac Creamery. Capac, Mich. H. A. Schellenberger, manager. Yearly receipts of milk, 1,760,000 lbs. Outfit consists of 1 500 gal. receiving vat, 1 400 gal. churn, 1 250 gal. cream ripener, 1 No. 1 separator, 1 200 gal. skim-milk pan, 1 32 bottle tester, 1 12 H. P. engine, 1 50 H. P. boiler. Condition of buildings, good, new and sanitary; of apparatus, good and clean; of surroundings, good, fair drainage. Average test of milk, 4.1 per cent. Yearly production of butter. 80,000 lbs. Color, medium; salt, medium. Number of patrons, 95. Market, Buffalo.

Tuscola County:

Millington Skimming Station, Millington, Mich. Clara C. Moore, owner, and W. C. McKenzie, manager. Yearly receipts of milk, 1,200,000 lbs. Outfit consists of 1 No. 1 separator, 1 400 gal. receiving vat, 1 15 H. P. boiler. Condition of building, good, clean and sanitary; of apparatus, good and clean; of surroundings, good. with fair drainage. Average test of milk 3.8 per cent. Number of patrons. 55. Ships cream to Vassar Creamery.

Vassar Creamery, Vassar, Mich. Clara C. Moore and William C. McKenzie, managers. Outfit consists of 1 600 gal. receiving vat, 1 600 gal. cream vat, 1 separator, 1 30 H. P. engine, 1 60 H. P. boiler. Condition of buildings, fair and in a fair sanitary condition; of apparatus, fair; of surroundings, good, with good drainage. Yearly production of butter, 53,000 lbs. Color, medium; salt, medium. Renovated butter plant in same building with creamery. Daily receipts of milk, 2,000 lbs., used in the manufacture of renovated butter. Power and steam from creamery engine and boiler. Apparatus consists of 2 600 gal. cream vats, 1 400 gal. churn, 3 melting tanks. Market, New York and Boston.

Van Buren County:

Lawrence Creamery, Lawrence, Mich. J. W. Cobb, manager. Yearly receipts of milk, 2,020,000 lbs. Outfit consists of 1 500 gal. receiving vat, 2 No. 1 separators, 1 300 gal. cream ripener, 1 450 gal. churn, 1 200 gal. skim-milk vat, 1 30 bottle tester, 1 10 H. P. engine, 1 15 H. P. boiler. Condition of buildings, good, clean and sanitary; of apparatus, good and clean; of surroundings, good, with good drainage. Average test of milk, 4.2 per cent. Yearly production of butter, 97,000 lbs. Color, high; salt, medium. Number of patrons, 125. Market, Chicago.

Lapeer County:

Columbiaville Cheese Factory, Columbiaville, Mich. Ladd Bros., owners; W. H. Rogers, manager. Yearly receipts of milk, 700,000 lbs. Outfit consists of 1 650 gal. cheese vat, 1 curd sink, 1 15 hoop gang press, 1 8 H. P. boiler, 1 7 box scale. Condition of buildings, large, clean and sanitary; of apparatus, good and clean; of surroundings, good with fair drainage. Average test of milk, 3.6 per cent. Yearly production of cheese, 75,000 lbs. Number of patrons, 25. Market, Saginaw.

Elba Cheese Factory, Elba, Mich. W. Winship, manager. Yearly receipts of milk, 1,460,000 lbs. Outfit consists of 1 500 gal. cheese vat, 1 250 gal. cheese vat, 1 curd sink, 1 17 hoop gang press, 1 check weigh pump, 1 8 H. P. boiler. Condition of buildings, new, cement floor, clean and sanitary; of apparatus, good and clean in every particular; of surroundings, good, with good drainage. Average test of milk, 3.4 per cent. Yearly production of cheese, 173,000 lbs. Market, home and Chicago.

Tuscola County:

Vassar Cheese Factory, Vassar, Mich. W. T. Lewis and F. Lounsbury, proprietors. Yearly receipts of milk, 1,460,000 lbs. Outfit consists of 1 500 gal. cheese vat, 1 600 gal. cheese vat, 1 curd sink, 1 20 hoop gang press, 1 12 H. P. boiler. Condition of buildings, new and clean, sanitary in every particular; of apparatus, good and clean, conveniently arranged; of surroundings, good, with good drainage. Average test of milk, 4.0 per cent. Yearly production of cheese, 153,000 lbs. Number of patrons, 68. Market, home.

APIARY INSPECTIONS.

APIARY INSPECTIONS.

October Inspection.

At Ashley City:

Wm. Wray—Number of colonies, 130; condition, healthy; flora, clover, basswood and fall flowers; honey house, neat; yard, fair.

Foul brood in this vicinity makes it difficult to keep his apiary healthy.

At Fremont:

Frank Huliers—Number of colonies, 1; condition, diseased; flora, basswood, clover and fall flowers; honey house, none; yard, neat. Bees and combs ordered destroyed.

George Clough—Number of colonies, 3; condition, two diseased, one healthy; flora, basswood, clover and fall flowers; honey house, none; yard, fair. Two colonies ordered destroyed.

Stillman E. Andrews—Number of colonies, 6; condition, all healthy except two; flora, basswood, clover and fall flowers; honey house, none; yard, neat and clean. Diseased colonies ordered destroyed.

Chas. Cadwell—Number of colonies, 25; condition, mostly good, a few diseased; flora, basswood, clover and fall flowers; honey house, fair; yard, very neat. Will treat diseased colonies in the spring.

Gus Graham—Number of colonies, 11; condition, good; flora, basswood, clover and fall flowers; honey house, none; yard, fair.

John Richardson—Number of colonies, 11; condition, excellent; flora, basswood, clover; yard, good.

W. E. Crane—Number of colonies, 15; condition, good; flora, basswood, clover and fall flowers; yard, fair.

Fayette Bradford—Number of colonies, 11; condition, excellent; flora, basswood, clover and fall flowers; yard, slovenly.

Winfield Reynolds—Number of colonies, 2; condition, excellent; flora, basswood, clover and fall flowers; yard, fair.

Wm. Trippensee—Number of colonies, 4; condition, excellent; flora, basswood, clover and fall flowers; yard, neat.

At Pittsford:

E. Goodrich—Number of colonies, 17; condition, excellent, found one diseased; flora, basswood and clover; yard, fair. Will treat diseased colony in the spring.

At Rollin:

A. E. Knowles—Number of colonies, 20; condition, excellent; flora, basswood and clover; honey house, neat and clean; yard, neat and tidy.

C. C. Fuller—Number of colonies, 6; condition, badly diseased; flora, basswood and clover; yard, neat and clean. Ordered bees and combs destroyed.

G. D. Peebles—Number of colonies, 3; condition, badly diseased; flora, basswood and clover; yard, fair. Ordered bees, combs and hives destroyed.

Frank Bowen—Number of colonies, 1; condition, badly diseased; flora, basswood and clover; yard, fair. Ordered bees, combs and hives burned.

Albert Townsend—Number of colonies, 6; condition, excellent; flora, basswood and clover; yard, neat and clean.

C. W. Nichols—Number of colonies, 20; condition, excellent; free from disease; flora, basswood and clover; honey house, good; yard, neat and clean. Has had to treat all of his colonies the last year to keep them free from disease.

Orin Nicholoy—Number of colonies, 3; condition, two fair, one badly diseased; flora, basswood and clover; yard, neat. One colony so badly diseased it was ordered burned.

C. A. Huff—Number of colonies, 90; condition, excellent; flora, basswood and clover; honey house, good; yard, excellent. Has had 5 or 6 colonies; will treat them in the spring. Diseased colonies in his vicinity make it difficult to free his apiary.

At Sumner:

F. E. Hess—Number of colonies, 9; condition, some badly diseased; flora, basswood, clover and golden rod; yard, very neat. Diseased colonies will be treated in the spring.

Frank Tyrell—Number of colonies, 30; condition, excellent; flora, clover, basswood and goldenrod; yard, fair.

At Wheatland:

Thomas McSouth—Number of colonies, 30; condition, good, free from disease; flora, basswood and clover; yard, slovenly.

At Woodstock:

H. G. Strong—Number of colonies, 7; condition, excellent; flora, basswood and clover; yard, good. Kept his bees free from disease by having new combs built each year.

November Inspection.

At Dowagiac:

James Heddon—Number of colonies, 173; condition, healthy, and strong; flora, basswowod, clover and fall flowers; honey house, neat and clean; yard, neat and orderly.

At Fremont:

Frank Huliers—Number of colonies, 1; condition, diseased; flora, basswood. clover and fall flowers; yard, neat.

Geo. Clough—Number of colonies, 3; condition, 2 diseased, 1 healthy; flora, basswood, clover and fall flowers; yard, fair.

Stillman E. Andrews—Number of colonies, 6; condition, 2 diseased, 4 healthy; flora, basswood, clover and fall flowers; yard, neat.

At Flushing:

Deroy Simpson—Number of colonies, 46; condition, excellent; flora, basswood and clover; yard, clean and tidy.

At Hudson:

Geo. M. Whitbeck—Number of colonies, 80; condition, 15 diseased, remainder healthy; honey house, fair; yard, exceedingly neat and tidy; flora, basswood, clover and fall flowers.

At Linden:

H. R. Vanwagner—Number of colonies, 10; condition, healthy; flora, basswood, clover and fall flowers; yard, neat.

At Mayville:

L. T. Bacon—Number of colonies, 60; condition, healthy; flora, basswood, clover and fall flowers; honey house, neat; yard, neat.

At Morrice:

John Beckwith—Number of colonies, 88; condition. excellent; flora, basswood, clover and fall flowers; honey house, neat and clean; yard, tidy and orderly.

At Rollin:

C. C. Fuller—Number of colonies, 3; condition, 2 diseased, 1 healthy; flora, basswood, clover and fall flowers; yard, slovenly.

Frank Bowen—Number of colonies, 1; condition, diseased; flora, basswood, clover and fall flowers; yard, slovenly.

Frank Knowles—Number of colonies, 10; condition, 7 healthy, three diseased; flora, basswood, clover and fall flowers; yard, fair.

J. N. Harkness—Number of colonies, 4; condition, healthy; flora, basswood, clover and fall flowers; yard, tidy.

C. O. Peebles—Number of colonies, 3; condition, badly diseased; flora, basswood, clover and sweet clover; yard, fair.

March Inspection.

At Alden:

Joseph Martin—Number of colonies, 50; colonies, healthy; honey house, good; yard, neat; flora, raspberry. Had feared that chilled brood was foul brood.

At Ashley City:

William Wing—Number of colonies, 130; colonies, healthy; honey house, neat; yard, fair; flora, basswood, clover and fall flowers.

At Farwell:

T. F. Bingham—Number of colonies, 118; colonies, healthy; honey house, neat; yard, very neat and orderly; flora, clover.

At Mancelona:

S. D. Chapman—Number of colonies, 150; colonies, healthy; honey house, neat; yard, neat; flora, raspberry.

At Saginaw:

O. J. Hetherington—Number of colonies, 28; colonies, healthy; honey house, neat; yard, neat and clean; flora, clover and fall flowers.

April Inspection.

At Battle Creek:

John I. Gibbons—Number of colonies, 32; colonies, some healthy, some diseased, one dead with foul brood; yard, clean; honey house, neat and clean; flora, white clover. Bees were bought last September. No knowledge of disease. Seller will take back the bees and treat them.

At Clayton:

S. A. Lawton—Number of colonies, 10; colonies, healthy; yard, fair; flora, clover.

At Detroit:

Earl F. Townsend—Number of colonies, 40; colonies, healthy; yard, dirty; flora, sweet and white clover. He had mistaken chilled brood for foul brood.

At Morris:

W. H. Kirker—Number of colonies, 70; colonies, healthy; yard, clean and attractive; honey house, neat and clean; flora, clover.

At Rollin:

G. D. Peebles—Number of colonies, 3; colonies, badly diseased; yard, fair; flora, basswood and clover. Burned hives and combs.

May Inspection.

At Ashley:

Mrs. William Wray—Number of colonies, 100; colonies, strong, but a few are infected with foul brood; yard, fair, honey house, neat; flora, clover, basswood and fall flowers.

At Detroit:

Otto Kleinow—Number of colonies, 1; colonies, excellent; yard, very neat; honey house, neat; flora, clover.

At Grand Rapids:

F. B. Wild—Number of colonies, 25; colonies, healthy; yard, untidy; flora, clover and fruit blossoms.

A. A. Wilson—Number of colonies, 30; colonies, some healthy, and some diseased. Yard, tidy; flora, clover and fruit blossoms. Will treat the diseased colonies.

L. C. Woodman—Number of colonies, 50; colonies, healthy; yard, exceedingly neat; honey house, neat; flora, clover and fruit blossoms.

Fred Brown—Number of colonies, 4; colonies, fairly strong and healthy; yard, neglected; flora, clover and basswood.

Samuel Collard—Number of colonies, 11; colonies, strong and healthy; yard, clean and tidy; flora, clover and fruit blossoms.

A. J. Hagerdorn—Number of colonies, 17; colonies, very weak, but no foul brood; yard, neat, clean and orderly; flora, clover and fruit blossoms.

At Linden:

H. R. Van Wagner—Number of colonies, 12; colonies, healthy; yard, neglected; honey house, fair; flora, basswood and clover.

At Morrice:

W. H. Kirker—Number of colonies, 60; colonies, a few slightly diseased, will be treated; yard, neat; honey house, neat; flora, basswood and clover.

Frank Graham—Number of colonies, 1; colony, healthy; yard, fair; flora, basswood and clover.

W. Brown—Number of colonies, 20; colonies, all healthy except one; yard, neglected; flora, basswood and clover.

At Sparta:

Calvin Crane—Number of colonies, 37; colonies, healthy; yard, neat; flora, clover and fruit blossoms.

A. B. Cheney—Number of colonies, 60; colonies, healthy; yard, neat; honey house, neat; flora, clover and fruit blossoms.

At St. Louis:

E. S. Trot—Number of colonies, 100; colonies, a few have foul brood; yard, untidy; honey house, fair; flora, basswood and clover.

J. H. Palmer—Number of colonies, 14; colonies, excellent; yard, neat; flora, basswood and clover.

Peter Van Vrankin—Number of colonies, 5; colonies, strong and healthy; yard, neat; flora, basswood and clover.

W. Goodnuff—Number of colonies, 1; colonies, healthy; yard, fair; flora, basswood and clover.

E. Stôhl—Number of colonies, 1; colony, healthy; yard, fair; flora, basswood and clover.

At Swartz Creek:

Elmer Campbell—Number of colonies, 5; colonies, good; yard, fair; flora, basswood and clover.

Milton Wilcox—Number of colonies, 40; colonies, excellent; yard, neat; honey house, fair; flora, basswood and clover.

C. E. Herrick—Number of colonies, 40; colonies, healthy; yard, very neat; flora, basswood and clover.

T. D. Bloss—Number of colonies, 160; colonies, a few have foul brood; yard, fair; honey house, untidy; flora, clover and basswood.

June Inspection.

At Archie:

C. Haynes—Number of colonies, 20; colonies, healthy; yard, tidy; honey house, neat; flora, berries and basswood; honey sold in past year, 500 lbs.

At Flat Rock:

John Hollenfeltz—Number of colonies, 12; colonies, healthy; flora, clover, basswood and fall flowers; yard, very untidy.

H. J. Diekman—Number of colonies, 17; colonies, healthy; yard, fair; flora, clover, basswood and fall flowers.

D. I. Wagar—Number of colonies, 59; colonies, healthy; honey house, neat; yard, exceedingly neat; flora, clover, basswood and fall flowers; honey sold in past year, 3,000 lbs.

Geo. Wells—Number of colonies, 33; colonies, healthy; yard, untidy; flora, clover, basswood and fall flowers.

Sidney Wagar—Number of colonies, 2; colonies, healthy; yard, neat; flora, clover, basswood and fall flowers.

Arthur Vandervort—Number of colonies, 5; colonies, healthy; yard, neglected; flora, clover, basswood and fall flowers.

At Lansing:

W. L. Brush—Number of colonies, 33; colonies, healthy; yard, fair; honey house, fair; flora, clover and basswood.

At Mayville:

Howard Hutchinson—Number of colonies, 8; colonies, healthy; yard, fair; flora, clover, basswood and fall flowers. Honey sold in past year, 200 lbs.

At Morrice:

M. H. Kirker—Number of colonies, 70; colonies, some diseased but are being treated; honey house, neat and clean; flora, clover, basswood and fall flowers; honey sold in past year, 700 lbs.

At Nessen City:

C. F. Pulsifer—Number of colonies, 10; colonies, healthy; yard, fair; flora, berries and basswood; honey sold in past year, 200 lbs.

At Petoskey:

E. T. Coveyou—Number of colonies, 200; colonies, healthy; yard, neat; honey house, neat; flora, berries and basswood; honey sold in past year, 1,800 lbs.

At Waltz:

Otis Lincoln—Number of colonies, 30; colonies, some slightly diseased, will be treated; yard, untidy; flora, basswood and fall flowers.

Frank Hamilton—Number of colonies, 2; colonies, healthy; yard, fair; flora, clover, basswood and fall flowers.

At Willow:

F. Ernst—Number of colonies, 6; colonies, healthy; yard, very untidy; flora, clover, basswood and fall flowers.

Edward Kamine—Number of colonies, 9; colonies, one diseased, will be treated; yard, fair; flora, clover, basswood and fall flowers. Honey sold in past year, 100 lbs.

Otto Draft—Number of colonies, 33; colonies, healthy; yard, neat; flora, clover, basswood and fall flowers; honey sold in past year, 600 lbs.

Bennett Felt—Number of colonies, 20; colonies, healthy; yard, fair; flora, clover, basswood and fall flowers; honey sold in past year, 200 lbs.

At Vassar:

Elmer Hutchinson—Number of colonies, 20; colonies, healthy; yard, tidy; flora, clover, basswood and fall flowers; honey sold in past year, 700 lbs.

ANALYSES.

REPORT OF STATE ANALYST.

HON. A. W. SMITH, *State Dairy and Food Commissioner:*

DEAR SIR—I herewith submit my report of the work done in the Department Laboratory during the fiscal year ending June 30, 1903. In the following summary is included all samples examined during the year but only the ones found adulterated are reported in detail together with such other information as is thought to be of value in interpreting the analyses, etc.

R. E. DOOLITTLE,
State Analyst.

Lansing, Mich., June 30, 1903.

EXPLANATORY.

It should not be inferred from an examination of the figures in the following table that they represent the actual condition of the food supply of Michigan as regards adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the food products inspected, and samples are selected after an examination by them because they are supposed to be adulterated.

Only samples of this kind, or in which some new form of adulteration is liable to appear, are sent to the Department Laboratory for analysis.

If a sample should be taken from every article inspected, the summary would be vastly different.

SUMMARY.

Article.	Total.	Not found adulterated.	Found adulterated.
Allspice	2	2	
Baking powder	1	1	
Banana flour	2		2
Buckwheat flour	4	4	
Butter	12	9	3
Cayenne	1	1	
Chocolate and cocoa	20	8	12
Cider	1	1	
Cinnamon	2	2	
Cloves	7	7	
Coffee	1		1
Cooking oil	2	2	
Corn starch	1	1	
Cream of tartar	4	1	3
Etheral flavoring preparations	22		22
Flavoring powders	4		4
Ginger	1		1
Health food	1	1	
Honey	2	1	1
Jellies, jams and preserves	128	7	121
Lard	5	4	1
Lemon extract	153	24	129
Maple syrup	5	5	
Milk	66	56	10
Miscellaneous	5	1	4
Molasses	2	2	
Mustard (flour)	8	2	6
Mustard (prepared)	4	2	2
Nutmeg	3	2	1
Nutrium	1	1	
Oleomargarine	71	56	15
Pie fruits	4		4
Pepper	120	102	18
Syrup	6	1	5
Vanilla extract	66	23	43
Vinegar	17	8	9
Totals	754	337	417

BAKING POWDER.

During the year ending June 30th, 1903, but one sample of baking powder has been received at the laboratory for examination. This was found to be an alum-phosphate powder and to comply with the law regarding label, etc. The absence of any statute in this State governing the manufacture and sale of baking powder, permits the sale of the various kinds of baking powders provided the label bears the name and address of the manufacturer and they contain nothing poisonous or injurious to health.

BANANA FLOUR.

Two samples of a food product labeled "Hammond's Banana Flour," produced by the Hammond Food Co., Bay City, Mich., were sent to the laboratory for examination during the year. They were both found to be similar in composition to the common pancake flour preparations, consisting of a mixture of wheat flour and finely ground corn meal together with baking powder and salt.

BUCKWHEAT FLOUR.

Four samples of buckwheat flour were examined during the period covered by this report, all of which were found to be pure.

BUTTER.

Seven samples of dairy and creamery butter and two samples of renovated butter were received at the laboratory for examination during the year. One of the samples of dairy butter was found to be rancid, the others to be pure. The two samples of renovated butter were labeled in compliance with the statute then in force. Heretofore the law governing the sale of renovated or process butter required only that the tub or package from which the goods were retailed should be stamped or branded with the words "Process Butter," but by an act (Act No. 243, P. A. 1903) passed by the last legislature it is now necessary that not only the tub or package shall be branded with the words "Renovated Butter," but also each and every roll, print or other form of parcel sold at retail shall be wrapped in wrappers on the outside of which is conspicuously stamped the words "Renovated Butter," in plain gothic letters at least three-eighths of an inch square.

There was also received during the past year two samples sold for butter by the Detroit Tea Store of Bay City, which proved on examination to be oleomargarine. The samples were stamped "Oleomargarine," but were sold to the inspector upon his request for butter.

One sample of a product labeled "Hammond's Vegetable Butter" was examined during the year. The sample proved to be a preparation from peanuts.

METHODS OF EXAMINATION OF BUTTER.

Water.—A weighed quantity of about 2 grams is dried to constant weight at 100° C. in a flat bottom platinum dish. Pure butter should contain not to exceed 16 per cent of water.

Fat—A weighed quantity of 2 to 3 grams of the sample is dried at 100° C. on asbestos held in perforated sheet metal tube as described under methods for examination of milk. After drying, the tube is placed in a Soxhlet extractor and extracted with anhydrous, alcohol-free ether for four hours, the ether removed by evaporation and the fat dried to constant weight at 100° C. Pure butter should contain not less than 82 per cent butter fat.

Examination of the Fat—A portion of the sample is melted at about 50° C. and after standing at this temperature for a short time to allow the curd and salt to settle is filtered through a dry filter.

(a) *Refractive Index.*—The refractive index is taken by the Zeiss butyro-refractometer at 40° C., the refractive index equivalent to the scale divisions of the instrument being obtained from table prepared by Winton.[a]

(b) *Reichert-Meissl Number.*—The Reichert-Meissl Number is determined by the Leffman and Beam modifications of the Reichert process.

DETECTION OF RENOVATED BUTTER.

Boiling Test.—A small portion, 1 to 2 grams, of the sample is placed in a teaspoon and heated over a low flame. Genuine butter boils quietly and produces an abundance of foam; renovated butter sputters like a mixture of grease and water when heated and produces little or no foam. Oleomargarine acts like butter in these respects, but is identified by the refractive index or Reichert-Meissl Number.

Appearance of the Melted Butter.—A convenient portion of the sample, 50 to 100 grams, is placed in a beaker and melted at 50° C. Renovated butter will not yield a clear supernatant fat but remains more or less cloudy, while with pure butter the curd settles out quickly, leaving a characteristic clear fat.

Appearance of the Curd.—The fat is decanted from the sample above melted and the curd well washed with ether to remove the last remnant of fat. The curd is then poured in a thin layer on a clean glass plate. A sample of pure butter is treated in the same manner. The curd from true butter has a gelatinous, ropy, non-granular appearance, while that from renovated butter has a coarse, granular appearance.

Microscopial Examination.—Place a bit of the sample on a glass slide and press into a thin film with cover glass. Examine with a low power polarizing microscope. Pure butter gives a uniformly blue colored field with the selenite plate, showing the absence of fat crystals. Renovated butter gives a blue field, mottled with yellow.

Detection of Artificial Coloring Matter.—(See Oleomargarine).

CHOCOLATE AND COCOA.

The chocolate and cocoa preparations found on our markets are manufactured from the "cocoa bean," the seed of the Cacao tree. This tree is a native of tropical America and is extensively grown in the islands of the West Indies, Mexico and the countries of northern South America, also in Java, Sumatra, Ceylon and other portions of the eastern continent where it has been successfully transplanted.

The seeds are borne in large yellowish brown colored pods which are irregular and angular in shape and have a thick tough rind. Inside are twenty-five to fifty of the seeds closely packed in five rows and embedded in a soft sweetish pulp. The seeds after being removed from the pulp are subjected to a fermentation process which destroys certain disagreeable, bitter principles characteristic of the fresh seeds. They are then dried, when they are ready for the market. The seeds or "beans" as received by the manufacturer in this country are about the size and shape of ordinary almonds, and of a reddish brown color. The pleasant taste and fragrant odor is for the most part developed by a process of roasting that the beans are subjected to before grinding.

Cocoa Nibs or *Cracked Cocoa* is the term applied to the coarsely broken fragments of the roasted seed after removing the shell or husk.

According to Winton[b] the average composition (17 analyses) of Cocoa Nibs is: Water, 2.72 per cent; ash, 3.32 per cent; theobromine, 1.04 per cent; caffeine, 0.40 per cent; other nitrogenous substances, 12.12 per cent; crude fiber, 2.64 per cent; starch, 8.07 per cent; other nitrogen-free substances, 19.57 per cent; fat, 50.12 per cent.

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[a] Conn. Agr'l Exp. Sta. Rpt. 1900, pt. 2, page 143.

[b] Conn. Exp. Sta. Rpt. 1902, pt. 2, page 250.

Plain Chocolate, sometimes called Bitter or Premium Chocolate, is the solid plastic mass obtained by grinding cocoa nibs, without the removal of any of the fat or other constituent except the germ. Pure chocolate contains not to exceed 4.00 per cent ash, or mineral matter, 9.00 per cent starch (by diastase method), or 3.00 per cent crude fiber, nor less than 48.00 per cent of cocoa fat.

Sweet Chocolate, Vanilla Sweet Chocolate, etc., is plain chocolate mixed with cane sugar and flavoring matter, as vanilla, etc.

Sweet chocolate should contain not to exceed 60.00 per cent sugar and the sugar and fat-free residue should be no higher in percentage of ash, starch or fiber than the sugar and fat-free residue of plain chocolate.

Cocoa or *Breakfast Cocoa* is cocoa nibs, with or without the germ, deprived of a portion of the fat and reduced to a powder.

Cocoa should contain not less than 20 per cent cocoa fat and no higher percentages of ash, starch or crude fiber than plain chocolate after correction for fat removed.

Sweet Cocoa is cocoa mixed with cane sugar.

Sweet cocoa should contain not to exceed 60 per cent of sugar, and the sugar and fat-free residue should be no higher in percentage of ash, starch or crude fiber than the sugar and fat-free residue of plain chocolate.

Adulterations: The principal adulterants of chocolate and cocoa preparations are the various starches and flours, sugar, etc. The use of the shells is apparently quite a common practice in some of the low priced goods, making it quite necessary that there should be an established standard for the various preparations.

During the past year twenty samples have been received at the laboratory for examination, twelve of which were found to be adulterated and eight to be pure. A detailed report of the adulterated samples is found in Table I.

A large number of samples of the cocoa beans and of the various cocoa products have been collected for analysis but the work on them is not yet completed.

TABLE I.—*Chocolates and*

Laboratory number.	Seal number.	Label.	Manufacturer.
5157	K-355	"Justice Brand Premium Chocolate"	Wm. H. Baker, Syracuse, Inc
5300	K-389	"Justice Brand Cocoa Extract"	Wm. H. Baker, Syracuse, Inc
5307	K-394	"Purity Premium Chocolate"	Steele-Wedeles Co., Chicago, Ill.
5310	K-397	"Premium Plain Chocolate"	Brewster Cocoa Mfg. Co., Jersey City, N. J.
5311	K-398	"Justice Brand Cocoa"	Wm. H. Baker, Syracuse, Inc
5322	K-400	"Ader's Breakfast Cocoa"	Emile Ader, New York, N. Y.
5323	K-401	"No. 1 Premium Chocolate"	Emile Ader, New York, N. Y.
5387	L-307	"Deutsche Highest Quality Sweet Chocolate"	Wm. H. Baker, Syracuse, Inc
5409	R-225	"Justice Brand Cocoa"	Wm. H. Baker, Syracuse, Inc
5498	R-254	"Admiral Cocoa"	The Hub Cocoa Works, Boston, Mass
5502	L-340	"Rose's Premium Chocolate"	Cleveland Chocolate and Cocoa Works, Cleveland, O.
42a	....	"Justice Brand Premium Chocolate"	Wm. H. Baker, Syracuse, Inc

cocoas found adulterated.

Retailer.	Water.	Ash.	Starch.	Fat.	Crude fiber.	Sugar.	Microscopic examination.
	%	%	%	%	%	%	
J. E. Niles, Grand Ledge	3.92	3.22	20.16	37.29	3.62	......	Wheat product present.
Wm. & T. Baker, Grand Haven	6.30	3.96	18.05	30.71	2.49	......	Corn starch present.
G. H. Haines, Muskegon	2.70	3.70	9.81	47.30	3.84	......	Small amount wheat.
J. H. Spoelman, Muskegon	2.80	3.86	11.29	48.83	4.12	......	Small amount corn starch.
Jos. Anderson, Muskegon	4.42	4.92	18.45	28.57	2.81	......	Wheat product present.
Wagner & Spyk, Muskegon	4.90	4.00	18.94	26.78	3.71	......	Wheat product present.
Wagner & Spyk, Muskegon	2.08	3.18	14.34	48.74	2.92	......	Wheat product present.
D. C. Hutchins, Fife Lake	1.46	1.54	8.22	22.38	1.60	54.36	Wheat product present.
Tanner & Dailey, W. Bay City	4.40	4.54	15.32	28.09	4.31	......	Wheat product present.
Budde & Tolson, Alpena	2.85	3.30	5.18	7.67	2.34	56.32	Corn starch and sugar present.
E. L. Rose, Petoskey	3.33	3.91	10.32	45.92	3.16	......	Wheat product present.
Hannah-Lay Mercantile Co., Traverse City	3.96	3.14	18.61	41.66	2.55	......	Wheat product present.

METHODS OF EXAMINATION OF CHOCOLATES AND COCOAS.

Water.—In the above samples 2 grams were dried to constant weight at 100° C. It has been shown by Winton[a] that drying in a current of hydrogen gives higher results than drying in air.

Ash.—Ignite 2 grams in a muffle furnace at low red heat.

Ash Insoluble in 10% Hydrochloric Acid.—Boil the ash above obtained with 25 c.c. of 10% hydrochloric acid (Sp. Gravity 1.050) for 5 minutes, collect the insoluble matter on ashless filter, wash with hot water, dry, ignite and weigh.

Ash Soluble in Water.—Prepare ash from 2 grams of the material as for total ash, boil for 15 minutes with 50 c.c. distilled water, collect insoluble portion on ashless filter, wash with hot water, dry, ignite and weigh. Percentage soluble ash = percentage total ash, less percentage of insoluble residue obtained.

Starch.—Weigh 4 grams of the material on an S. & S. No. 489 Blue Ribbon filter, carefully fold edges of paper over sample, place in extraction cartridge, and extract in Soxhlet extractor for 4 to 8 hours with washed ether. Remove and after ether has evaporated from filter transfer the fat-free residue to a small mortar by means of a jet of 10% (by volume) alcohol and grind to an even fine paste. Filter the liquid through paper previously employed and repeat process of transferring to mortar, grinding and filtering until all sugar is removed. The filtrate should measure at least 500 c.c. in case of sweet chocolates and cocoas.

When the sugar is all removed, carefully rinse the wet residue from the paper into a 200 c.c. Erlenmeyer flask with 100 c.c. of warm water, heat on an asbestos plate to boiling and boil for 1 hour, occasionally rotating the flask during the time to prevent sticking to the bottom or sides and burning. Replace the water lost by evaporation and immerse the flask in a water bath kept at a temperature of 55 to 60° C. When the liquid has cooled to the temperature of the bath add 20 c.c. of freshly prepared malt extract[b] and digest for 2 hours with occasional stirring of the flask. Boil a second time for 30 minutes, cool and digest as before with another portion of 20 c.c. of the extract. Heat to boiling again, transfer to a 250 c.c. flask, add a few c.c. of alumina cream, make up to the mark with water, thoroughly mix, and filter. Transfer 200 c.c. of the filtrate to a 300 c.c. Erlenmeyer flask, add 20 c.c. of 25% hydrochloric acid (Sp. Gravity 1.125), and digest in boiling water bath for 3 hours. At the end of that time remove the flask, cool, nearly but not quite neutralize with sodium hydroxide solution and make to 250 c.c. in graduated flask. Filter and determine reducing matter by Allihn's method as follows:

Take 30 c.c. of a solution containing 173 grams of Rochelle salt and 125 grams of potassium hydrate in 500 c.c. of water, and 30 c.c. of a solution of 34.639 grams pure crystalized copper sulphate in 500 c.c. of water, in a beaker with 60 c.c. of water and heat to boiling. As soon as the boiling point is reached add 25 c.c. of the solution to be tested and continue boiling 2 minutes. Collect the reduced copper sub-oxide in a weighed Gooch crucible, wash thoroughly with hot water, then with 10 c.c. of alcohol, and then with 10 c.c. of ether. Dry in oven at 100° C. for 30 minutes, cool in dessicator for 30 minutes and weigh. The weight of cuprous oxide multiplied by 0.888 gives the weight of metallic copper. Correct for the amount of dextrose in malt extract, if any. To obtain weight of starch multiply the weight of dextrose by 0.90.

The Gooch crucibles are prepared as follows: Best quality woolly asbestos is cut into small pieces and digested first with 1:3 hydrochloric acid, washed free from acid and small pieces by washing with water on sieve of about 1 mm. mesh, and then digested with hot Fehling solution. The Gooches are packed by aid of blunt glass rod with a film of asbestos about one-fourth of an inch thick, washed thoroughly with hot water, then with 10 c.c. of alcohol and finally with 10 c.c. of ether. They are dried in the oven at 100° C. for 30 minutes and then cooled in dessicator 30 minutes before weighing. The cuprous oxide may be dissolved off with warm dilute nitric acid after each determination and thus the same felt of asbestos used several times.

Ether Extract (Fat).—Weigh 2 grams of sample on a S. & S. No. 589 "blue ribbon" filter and set in dessicator over sulphuric acid for from 3 to 4 days to remove water. Carefully fold filter over sample, put in extraction cartridge, place in Soxhlet extractor and extract with anhydrous ether for 8 hours or until fat is all removed. Evaporate ether and dry at 100° C.

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[a] Conn. Exp. Sta. Rpt. 1902, pt. 2, page 278.

[b] Prepared by dissolving 5 grams Diastase-Stearns in a litre of water, or by digesting 100 grams of powdered malt in 1,000 c.c. water for 3 hours and filtering.

Crude Fiber.—Rinse the residue from the ether extract determination from the filter into a 600 c.c. beaker with 200 c.c. boiling 1.25 per cent sulphuric acid, cover the beaker with a watch glass and continue the boiling for 30 minutes. Filter through linen without delay and wash with hot water until washings are no longer acid. Rinse the residue back into the beaker with 200 c.c. boiling 1.25 per cent sodium hydroxide solution and continue the boiling as before for 30 minutes. Collect fiber on a weighed ashless filter, thoroughly wash with hot water, and finally with a little alcohol and then ether, dry to a constant weight at 100° C. and weigh. Incinerate the residue and deduct the ash thus obtained from total amount of residue. The loss of weight sustained by the paper by the sodium hydroxide solution, alcohol and ether should be determined and the necessary correction made, if any.

Total Nitrogen.—Determine total nitrogen by Kjeldahl's method.[a]

Sugar.—Determine sugar in sweet chocolates and sweet cocoas by Elwell's method[b] as follows: Weigh 13.024 grams of the material into a small mortar, add a little alcohol and grind to a smooth paste. Transfer to a 500 c.c. flask with about 400 c.c. of water and let stand with occasional shaking for 4 hours. Add 10 c.c. of a saturated solution of normal lead acetate, complete the volume to 500 c.c., thoroughly mix and let stand with occasional mixing of contents for 1 hour longer. Filter through dry filter and polarize in a 400 mm. tube. The percentage of sugar is then obtained by the following formula in which R = the polariscope reading when the normal weight for the instrument used is 26.048 grams.

$$\frac{R\,[500 - \left(13.024 - \frac{5\,R \times 13.024}{100}\right)}{100} = \%\ \text{Sucrose.}$$

Microscopical Examination.—The miscroscope is the most valuable means of detecting the addition of foreign vegetable matter even when present in only small amounts. Extract a portion of the sample with ether to remove the fat and examine residue under compound miscroscope. By elutriating the sample a concentration of the foreign matter may be obtained which gives more of the material for study or even for further chemical examination.

CIDER.

One sample of cider was received for examination during the past year and found to be pure.

COFFEE.

A sample (L-321) of "Leader Coffee" sold by Packard & Schepers, McBain, was received during the year. This was found to contain 14.82 per cent total ash and to be a mixture of broken coffee berries, sticks, pieces of husks, charred and immature berries, etc. It is what is commonly known as "coffee siftings."

CORN STARCH.

Only one sample of corn starch was received for examination during the past year and this was found to be pure.

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[a] Bul. No. 46 U. S. Dept. of Ag., Div. of Chemistry, page 15.
[b] Bul. No. 18, pt. VII. U. S. Dept. of Ag., Div. of Chemistry, page 957.

CREAM OF TARTAR.

The cream of tartar of commerce is obtained as a by-product during the fermentation of grape wine. During the fermentation of wines a peculiar crystalline crust is deposited in the cask called crude tartar or argol. This consists of potash united with an excess of tartaric acid forming acid potassium tartrate mixed with lime, coloring and other matters deposited during the clarification of the wine. It is from this substance the cream of tartar, acid potassium tartrate, is obtained, by a process of purification based upon its greater solubility in hot than in cold water.

Commercial cream of tartar usually contains a small per cent of tartrate of lime. The cream of tartar of the United States Pharmacopœia is required to bear a limit test for calcium defined as proof of "absence of more than six per cent of tartrate of lime."

Cream of tartar is frequently adulterated with the sulphate of lime, and phosphate of lime, starch, flour, etc. Formerly much of the cream of tartar sold in our grocery stores was a product commercially known as "C. T. S" (Cream of Tartar substitute), which consisted of a mixture of impure acid phosphate of lime and corn starch. These adulterations and substitutes were easily detected and are now seldom found.

During the past year only four samples were received at the laboratory for examination. One of these was found to be an alum-phosphate baking powder and was evidently a mistake on part of groceryman or jobber. Of the three others, two were mixtures of acid phosphate of lime, sulphate of lime and corn starch, and contained no cream of tartar. The other sample was pure cream of tartar.

METHODS OF EXAMINATION OF CREAM OF TARTAR.

The presence of the adulterants most commonly used in cream of tartar can be readily detected by boiling a pinch of the sample in a test tube. Pure cream of tartar dissolves to clear solution in hot water while sulphate of lime and starch do not. The addition of a drop of iodine to the solution reveals the presence of starch by its characteristic blue reaction. The cream of tartar will be redeposited on cooling and this must not be mistaken for insoluble matter.

For quantity analysis see "Examination of Baking Powder and Baking Powder Chemicals," as compiled by A. L. Winton, Bulletin No. 65, U. S. Dept. of Agriculture, Div. of Chemistry.

FLAVORING EXTRACTS.

Flavoring Extracts are of comparatively recent origin but considering the number and value of the annual sales, there is probably no class of food products more grossly adulterated. Of the various kinds of flavoring preparations on the market, that of vanilla extract is the most important.

VANILLA EXTRACT.

A true vanilla extract is made by mascerating vanilla beans with sugar and extracting the mass with diluted alcohol. The vanilla extract or tincture of the United States Pharmacopœia is manufactured as follows[a]:

" Vanilla, cut into small pieces and bruised......	100 grams
Sugar, in coarse powder	200 "
Alcohol Water } each, a sufficient quantity to make....	1,000 cubic centimeters.

Mix alcohol and water in proportion of 650 c.c. of alcohol to 350 c.c. of water. Macerate the vanilla in 500 c.c. of this mixture for twelve hours, then drain off the liquid and set it aside. Transfer the vanilla to a mortar, beat it with the sugar to a uniform powder, then pack it in a percolator, and pour upon it the reserved liquid. When this has disappeared from the surface, gradually pour on menstrum and continue the percolation until 1000 c.c. of tincture are obtained."

The commercial vanilla extracts are allowed to age in wood before being put upon the market. The amount of sugar and strength of alcohol used often vary considerably from that of the U. S. P. formula and glycerine is sometimes substituted wholly or in part for the sugar. Winton[b] reports one sample where glucose was used. These differences are of little importance provided the proper quantity of good quality vanilla beans are used and sufficient strength grain alcohol to remove all the flavoring ingredients of the beans. There are several varieties and grades of vanilla beans on the market varying in price according to their value for flavoring purposes from $1.00 to $15.00 per pound.

The adulteration of vanilla extract consists of substituting wholly or in part the inferior and cheaper tonka bean for extraction or the addition of artifical coumarin to weak extracts of the true vanilla bean,or even the sale of solutions of artificial vanillin or artificial coumarin in dilute alcohol colored with caramel or coal tar dye to represent the true extract. Weak extracts of the bean are also often colored with caramel or other matters to represent the pure undiluted product.

A pure vanilla extract has a dark red brown color and a characteristic sweet fragrant odor. The leading fragrant principle of vanilla bean and of true vanilla extract, is vanillin, a definite chemical compound, but vanillin is not the only fragrant or relishing constituent of vanilla beans or true vanilla extract; there are certain resins and other extractive matters soluble in alcohol that add to the fragrance and food value of the extract. The dark red brown color of the extract is derived to a large extent from the solution of the resins and gums of the bean. The tonka bean has a characteristic odor and an extract made from the same is useful for flavoring purposes but on account of its inferiority and consequent cheapness should not be substituted for or sold as vanilla extract. An extract made from both vanilla and tonka beans is salable if labeled as "Extract of Vanilla and Tonka." All packages of extracts must be labeled with the name and address of the manufacturer.

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[a] United States Pharmacopoeia, 1890, page 432.

[b] Conn. Ag. Exp. Sta. Rpt. 1901, pt. II, page 155.

Seventeen extracts of vanilla were made in the laboratory during the past year using the different varieties and grades of beans. These were made according to the formula of the U. S. Pharmacopœia except that the beans were allowed to soak in the menstrum for a longer period, usually from six weeks to three months. The results of the analyses of these extracts is given in Table II.

Forty-nine samples of vanilla extract were received during the year from the inspectors during the regular course of inspection work. Forty-three of these samples were found to be adulterated and six to be pure. A detailed report of the adulterated samples is found in Table III.

One sample (S-257) of a product labeled "Mexican Vanilla Oil," manufactured by Corrizo Extract Co., of Albany, N. Y., was received for examination. The sample was found to be a mixture of an oil, alcohol, vanillin (0.20 per cent), caramel and a foreign vegetable extract.

TABLE II.—*Vanilla extracts made in department laboratory.*

Laboratory number.	Kind of bean.	Total solids.	Sugar.	Solids other than sugar.	Ash.	Alcohol, by weight.	Vanillin.	Coumarin.	Resin.	Lead ppt.
		%	%	%	%	%	%	%		
V- 1	"Best Grade Mexican Vanilla Beans"	21.17	18.89	2.28	0.43	37.06	0.114	....	Present	Heavy, flocculent.
V-53	"No. 1 Mexican Vanilla Beans"	16.44	14.16	2.28	0.38	39.75	0.113	....	"	" "
V-54	"No. 2 " " "	17.39	15.17	2.22	0 42	37.76	0.010	....	"	" "
V-55	"No. 3 " " "	19.86	17.43	2.43	0.54	37.62	0.086	....	"	" "
V-56	"Mexican Cuts"	17.14	13.90	3.14	0.48	38.00	0.072	....	"	" "
V-16	"Best Grade Bourbon Vanilla Beans"	18.09	14.90	3.19	0.27	37.53	0.132	....	"	" "
V-17	"Bourbon Vanilla Beans"	20.54	17.32	3.22	0.22	39.35	0.224	....	"	" "
V-57	"No. 1 Bourbon Vanilla Beans"	18.38	15.33	3.05	0.32	36.75	0.132	....	"	" "
V-58	"No. 2 " " "	19.09	16.18	2.81	0.23	37.03	0.065	....	"	" "
V-59	"Bourbon Cuts"	19.88	16.16	3.72	0.42	37.54	0.097	....	"	" "
V- 3	"Tahiti Vanilla Beans"	20.17	17.98	2.19	0.25	37.33	0.103	....	"	" "
V-12	" " "	21.19	18.26	2.93	0.37	38.23	0.114	....	"	" "
V-60	" " "	18.28	15.39	2.89	0.31	39.00	0.120	....	"	" "
V-13	"Seychelles Vanilla Beans"	21.75	18.32	3 43	0.31	38.42	0.153	....	"	" "
V- 8	"Guadaloupe " "	20.96	18.18	2.78	0.32	39.36	0.090	....	"	" "
V- 7	"Mauritius " "	22.17	19.00	3.17	0.39	38 52	0.104	....	"	" "
V- 4	"Comores " "	21.28	18.34	2.94	0.34	37.88	0.105	....	"	" "

TABLE III.—*Vanilla extracts found adulterated.*

Laboratory number.	Seal number.	Description of label.	Manufacturer.	Retailer.
5058	S-216	Dieter's Double Vanilla Flavoring	The J. P. Dieter Co., Chicago, Ill	The Edward Henkel Co., Detroit, Wholes'r.
5110	L-258	Emblem Triple Extract of Vanilla	Clark-Jewell-Wells Co., Grand Rapids, Mich.	Mrs. J. C. Stewart, Thompsonville.
5115	L-259	Standard Extract of Vanilla	Atwood & Steele, Chicago, Ill	S. W. Porter, Northport.
5112	K-341	Extract of Vanilla	J. Starrat & Co., Detroit, Mich	B. A. Almy, Middleville.
5113	K-342	Vienna Brand Extract of Vanilla	The J.P. Dieter Co., Chicago, Ill	F. M. Quick & Co., Nashville.
5139	K-347	Pure Vanilla	The Zipp Mfg. Co., Cleveland, O	Andrus, Wells & Co., Homer.
5145	L-270	Pure Extract Vanilla	Quaker Medical Ass'n, St. Paul, Minn	W. D. Bridge, Ludington.
5151	R-171	True Extract of Vanilla	Phelps, Brace & Co., Detroit, Mich	Walther's Great Cheap Store, Bay City.
5169	R-178	Imperial Concentrated Extract of Vanilla	Not given	Stewart Mercantile Co., Saginaw, E. S.
5174	K-362	Biggest and Best Extract of Vanilla	Chicago Ext't Co. (S'd by Atwood & Steele)	J. G. Stien Grocery Co., Allegan.
5182	S-229	Dieter's Double Vanilla Flavoring	The J. P. Dieter Co., Chicago, Ill	Taylor & McLeisch, Detroit.
5193	R-180	Imperial Concentrated Extract of Vanilla	Not given	Stewart Mercantile Co., Saginaw, E. S.
5197	R-184	Double Strength Concentrated Extract of Vanilla	John M. Malcomson, Chicago, Ill	Malcomson's Tea Store, Saginaw, E. S.
5228	S-256	G. & B. Flavoring Extract of Vanilla	The J. P. Dieter Co., Chicago, Ill	A. Hund, Detroit.
5230	R-191	A. & P. Vanilla	The Great Atlantic & Pacific Tea Co., New York, N. Y	The Great Atlantic & Pacific Tea Co., Bay City.
5231	R-192	A. & P. Extract of Vanilla	The Great Atlantic & Pacific Tea Co., New York, N. Y	The Great Atlantic & Pacific Tea Co., Saginaw, E. S.
5233	R-194	Concentrated Extract of Vanilla	Grand Union Tea Co., Brooklyn, N. Y	Grand Union Tea Co., Bay City.
5236	S-258	Extract of Vanilla and Tonka	The J. P. Dieter Co., Chicago, Ill	John F. Hoschua, Detroit.
5241	R-196	True Extract of Vanilla	Phelps, Brace & Co., Detroit, Mich	Kelley & Co., Bay City.
5252	S-266	Concentrated Extract of Vanilla	Francis H. Leggett, New York, N. Y	F. J. Klein, Detroit.
5253	R-197	" " " "	Grand Union Tea Co., Brooklyn, N. Y	Grand Union Tea Co., Bay City.
5262	R 208	Seal Extract of Vanilla	Kenwood Preserving Co., Chicago, Ill	H. E. Turney, Lansing.
5398	R-216	Extract of Vanilla	Phelps, Brace & Co., Detroit, Mich	Kelley & Co., Bay City.
5353	L-295	Compound Flavor Vanilla	The Bennett Chemical Co., LeRoy, N. Y	M. C. Osborn, LeRoy.
5354	L-296	Compound Vanilla Flavoring	C. H. Stuart & Co., Newark, N. Y	H. W. Hawkins, Reed City.
5367	K-415	Purity Flavoring Extract of Vanilla	Thompson & Taylor Spice Co., Chicago, Ill.	E. J. Dossin, Detroit.
5393	K-420	Empire Brand Extract of Vanilla	Empire Mfg. Co., Detroit, Mich	D. L. Colwell, Detroit.
5402	L-314	Flavoring Extract of Vanilla	Quaker Extract Co., Chicago, Ill	Not given.
5412	R-228	Extract of Vanilla and Tonka	Not on label	J. W. C. Pendell, Saginaw.
5420	L-315	Compound Flavor, Vanilla	The Bennett Chemical Co., LeRoy, N. Y	M. Carman, Mecosta.
5437	R-238	Golden Gate Extract of Vanilla	C. Elliott & Co., Detroit, Mich	W. E. Laning, Fenton.
5484	L-337	Pure Concentrated Extract of Vanilla	None on label	Roofstra & Elzenga, Atwood.
5496	R-252	Pure Vanilla	Zipp Mfg. Co., Cleveland, O	Adam Kunna, Alpena.
5497	R-253	I X L Vanilla and Tonka	" " " " "	" " "
5499	R-255	Seal Extract of Vanilla	Kenwood Preserving Co., Chicago, Ill	Budde & Toleson, Alpena.

6a	....	Triple Strength Extract of Vanilla	The J. P. Dieter Co., Chicago, Ill	Not given.
8a	....	Extract of Vanilla	Not given	W. D. Bridge, Ludington.
13a	....	Flavoring Extract of Vanilla	The J. P. Dieter Co., Chicago, Ill	Not given.
14a	....	Double Vanilla Flavoring	" " " " " "	" "
15a	....	Emblem Extract of Vanilla	Not given	Clark-Jewell-Wells Co., Grand Rapids, Wholesalers.
20a	....	A. & P. Vanilla	The Great Atlantic & Pacific Tea Co., New York. N. Y	Not given.
25a	....	Concentrated Extract of Vanilla	Grand Union Tea Co., Brooklyn, N. Y	" "
57a	....	Imperial Extract of Vanilla	A. J. Hilbert & Co., Milwaukee, Wis	Smith, Thorndike & Brown Co., Marinette, Wis., Wholesalers.

TABLE III.—CONCLUDED.—*Vanilla extracts found adulterated.*

Laboratory number.	Solids.	Ash.	Sugar.	Alcohol, by weight.	Vanillin.	Coumarin.	Resin.	Lead ppt.	Color.	Remarks.
	%	%	%	%	%	%				
5058	16.17	0.05	10.00	15.59	0.417	None	Trace	Heavy	Foreign	Contains foreign coloring matter and vanillin not from bean.
5110	8.98	0.27	7.00	16.28	0.117	"	Slight am't	Present, small	"	Colored with coal tar dye.
5115	9.10	0.02	8.50	15.10	0.016	0.040	None	None	"	An artificial preparation.
5112	2.02	0.11	0.90	26.10	0.032	None	Present	Heavy	"	Contains foreign coloring matter.
5113	35.65	0.12	32.00	5.19	0.160	"	Trace	Small	"	" " " "
5139	14.04	0.20	10.04	18.87	0.066	"	Present	Heavy	"	" " " "
5145	11.27	0.28	5.69	29.70	0.082	0.105	"	"	"	Contains coumarin and foreign coloring matter.
5151	12.44	0.13	9.47	20.41	0.036	None	Small am't	"	"	Contains foreign coloring matter.
5169	8.31	0.13	4.60	13.43	0.150	"	Present	Present	"	" " " "
5174	9.01	0.02	7.00	14.46	0.016	0.052	Trace	"	"	Weak extract of vanilla and tonka colored.
5182	6.52	0.02		11.20	0.030	None	Present	Heavy	"	Contains foreign coloring matter.
5193	5.82	0.20	2.76	16.24	0.173	"	"	"	"	" " " "
5197	11.57	0.30	7.50	19.84	0.273	"	Little or none	"	"	" " " "
5228	11.64	0.15	8 00	7.73	0.066	"	Present	Present	"	" " " "
5230	8.70	0.20	2.46	21.08	0.037	0.064	"	"	Natural	Contains coumarin.
5231	2.37	0.05	None	8 17	0.073	0.060	None	"	Foreign	An artificial preparation.
5233	7.45	0.12	5.63	30.17	0.033	0.008	Present	"	"	Contains coumarin and foreign coloring matter.
5236	12.02	0.13	7.25	5.27	0.192	Trace	"	"	"	Contains foreign coloring matter.
5241	11.73	0.08	9.18	23.00	0.035	None	"	"	"	" " " "
5252	4.62	0.30			0.128	0.090	"	Heavy	"	Contains coumarin and foreign coloring matter.
5253	7.28	0.12	5.63	30.17	0.028	Trace	"	"	"	" " " " " "
5262	12.60	0.06	6.12	18.83	0.420	None	None	None	"	An artificial preparation.
5398	11.66	0.14	8.73	22.88	0.040	"	Present	Small am't	"	Contains foreign coloring matter.
5353	6.29	0.06	4 85	23.45	0.188	0.040	None	Present	"	An artificial preparation.
5354	2.61	0.08	None	15.28	0.281	0.054	"	"	"	" " "
5367	6.90	0.04	5 21	13.51	0.192	None	Present	Small am't	"	Contains foreign coloring matter.
5393	25.22	0.20	21.82	20.32	0.164	"	None	Trace	"	An artificial preparation.
5402	43.80	0.21	37.00	4.60	0.190	"	"	None	"	" " "
5412	9.97	0.08	5.52	14.94	0.028	0.050	Present	Heavy	"	Contains foreign coloring matter.
5420	6.63	0.14	5.00	25.00	0.215	0.031	None	Present	"	An artificial preparation.
5437	1.40	0.23	None	17.59	0.039	None	Present	Heavy	"	Contains foreign coloring matter.
5484	12.14	0.19	6.72	32.86	0.100	"	None	Small am't	"	Not a pure vanilla extract.
5496	23.65	0.07	22.09	30.20	0.770	"	Present	" "	"	" " " "
5497	11.79	0.07	10.60	25 32	0.140	0.210	"	Heavy	"	Not a true extract of vanilla and tonka.
5499	12.55	0.08	10.75	12.64	0.352	None	None	None	"	An artificial preparation.

6a	....	....	....	....	Prese't	"	Trace	Small am't...	"	Contains foreign coloring matter.
8a	11.27	0.28	5.69	29.70	0.062	0.105	Present	Heavy........	"	Contains coumarin and foreign coloring matter.
13a	....	....	....	....	0.158	None	Trace	Small am't...	"	Contains foreign coloring matter.
14a	....	....	....	....	0.160	"	"	" " ...	"	" " " "
15a	....	....	....	....	0.284	"	Present	Not v'y heavy	"	Not a true vanilla extract.
20a	8.78	0.21	3.00	20.90	0.032	0.068	"	Present......	Natural	Contains coumarin.
25a	7.17	0.10	5.22	44.60	0.187	None	"	Small am't...	Foreign	Contains foreign coloring matter.
57a	16.93	0.01	13.28	10.09	0.577	"	None.........	" " ...	"	An artificial preparation.

METHODS OF EXAMINATION OF VANILLA EXTRACTS.

Total Solids.—Place in a flat-bottom platinum about 10 grams of freshly ignited sand and a small glass stirring rod. After cooling, weigh and add 10 grams of the extract. Add about 50 c.c. water and evaporate over water bath, stirring when the mass begins to stiffen to thoroughly mix with the sand. Remove to oven and heat at 100° C. until loss for 1 hour is but slight. Extracts that contain glycerine cannot be dried to constant weight.

Ash.—Evaporate 5 grams of extract to dryness in small platinum dish and ignite at a heat below redness.

Sugar.—Weigh out 13.024 grams of the extract into a 50 c.c. flask, add 2 c.c. of lead subacetate solution and 2 c.c. of alumina cream and make up to mark. Filter and polarize at 20° C. in 200 mm. tube. To 25 c.c. of the filtrate add 2.5 c.c. of strong C. P. hydrochloric acid, mix thoroughly and place in cold water bath. Heat to 68° C. and keep at that temperature for 10 minutes. Cool quickly, filter and polarize at 20° C.

$$\text{Sucrose} = \frac{100\,(P-I)}{142.66 - \frac{20}{2}} \quad \text{where } P = \text{Polarization before inversion.} \quad \text{and } I = \text{'' after ''}$$

Extracts often contain invert sugar probably due to the inversion of the sugar in the process of manufacture. When invert sugar is present the total sugar is obtained by determining the amounts of reducing sugar before inversion and after inversion using Allihn's method, weighing the copper as cuprous oxide.

Alcohol.—Dilute 20 grams of the extract to 75 c.c. and distill 50 c.c. Cool to 15.6° C. and determine specific gravity with 25 c.c. pycnometer. Ascertain the corresponding percentage of alcohol from the alcohol tables, multiply this by the weight of the distillate, which number divided by the weight of the sample taken gives the percentage of alcohol by weight.

Character and Strength of the Extract.—Place 25 grams of the extract in a glass evaporating dish and remove alcohol by evaporation on water bath at a temperature below 80° C., adding water from time to time to retain the original volume. Note the appearance of dealcoholized solution by setting the glass dish on piece of white paper or placing it so that the light will be reflected through the contents. True vanilla extracts give a turbid solution due to the separation of the resinous matter soluble in alcohol, but insoluble in water. This resin generally appears as a flocculent reddish brown colored precipitate suspended in the liquid or floating on the surface. Add normal lead acetate solution, drop by drop, until no more precipitate forms, setting the dish on hot water bath and stirring with glass stirring rod to facilitate the flocculation. Filter through a moistened filter and wash 3 or 4 times with a few cubic centimeters of hot water. Note appearance of both precipitate and filtrate. True vanilla extract gives a characteristic heavy flocculent precipitate having a slight brownish color and a filtrate of a pale straw color. The artificial preparations give no resin and usually little or no precipitate with lead acetate. Where caramel is used the precipitate is more or less dark colored and the filtrate has the characteristic reddish brown color of caramel. Cool the filtrate and extract with ether by shaking out in a separatory funnel. Use about 15 c.c. of ether each time and repeat the process until a few drops of the ether placed on a watch glass leaves no residue, usually 4 times is sufficient. The combined ether extracts containing all the vanillin and coumarin is placed in a second separatory funnel and shaken out with dilute ammonia water, about a 5 per cent solution, using 10 c.c. each time. Repeat the process 4 or 5 times, or until the ammoniacal solution is no longer colored yellow. Set aside the combined ammoniacal solution for the determination of vanillin.

Wash the ether solution into a glass evaporating dish and allow the ether to evaporate at room temperature. Dry in dessicator over sulphuric acid. Treat the residue with a few cubic centimeters of cold petroleum ether (boiling point 30 to 40° C.), and decant into a clean, dry weighed dish. Repeat the extraction with petroleum ether until a drop evaporated on a watch glass leaves no residue. The petroleum ether is allowed to evaporate at room temperature, dried over sulphuric acid, and weighed. This gives pure crystalline coumarin, melting at 67° C. A determination of the melting point and the characteristic odor on warming are sufficient for identification. The amount of coumarin may be checked by loss of weight of dish by weighing before and after treating with petroleum ether.

The ammoniacal solution set aside for vanillin determination is made acid with 10 per cent hydrochloric acid, and extracted with chloroform, using about 10 c.c. for each extraction and repeating the process until a drop of the chloroform leaves no residue when evaporated on a watch glass, 3 times is usually sufficient. A few drops of the freshly added chloroform should be drawn off after each shaking to remove any residue from end of funnel. Evaporate at room temperature and dry over sulphuric acid. Treat the residue with boiling ligroine (boiling point 80 to 85° C.), decanting into a dry weighed evaporating dish, repeating the treatment until all vanillin is removed, usually 2 or 3 times. Allow the ligroine to evaporate at room temperature, dry over sulphuric acid and weigh. The residue is pure crystalline vanillin having a melting point of 80 to 81° C. A determination of the melting point and odor on warming are sufficient for identification. The amount of vanillin may be checked, as for coumarin, by weighing the evaporating dish before and after extracting with the boiling ligroine.

The vanilla resin may be separated for further identification by the method of Hess[a] as follows: Remove alcohol from 25 c.c. of the extract and make up to original volume as for vanillin and coumarin determination. Acidify with acetic acid to free resin from bases and allow to stand a short time when the whole of the resin separates out leaving a partially decolorized, and clear supernatant liquid. Collect resin on a filter and wash with water. Place a piece of the filter with resin attached in a few c.c. of dilute caustic potash. The resin dissolves to a deep red solution. On acidifying the resin is reprecipitated. Make a solution of the resin in alcohol. To one portion of the alcoholic solution add a few drops of ferric chloride. No striking coloration is produced. To another portion add a little hydrochloric acid and again there is little change in color. Most resins give color reactions with ferric chloride or hydrochloric acid in alcoholic solutions.

Detection of Foreign Coloring Matter.—Caramel is generally used for coloring vanilla extracts and the fraudulent imitations of the true product, though the coal tar preparations are used to quite an extent.

The presence of caramel may often be detected upon shaking the bottle of extract. If on shaking the bubbles formed have a clear caramel red color and they hold this color until the very last of the bubbles are gone it is a strong indication of caramel. The difference is readily seen by comparison with a sample of known purity.

The presence of caramel may be detected by noting the appearance of the precipitate and filtrate as noted above.

Detect the presence of coal tar dyes by method of Sostegni and Carpentieri[b], as follows: Take the residue from the determination of alcohol and acidify with 2 to 4 c.c. of a 10% hydrochloric acid solution. Immerse in this a piece of woolen cloth or yarn that has been washed in a dilute solution of boiling potassium hydroxide and then washed in water until free from alkali, and boil on hot plate for 5 to 10 minutes. Remove the cloth, wash in water, and then boil in very dilute hydrochloric acid. Remove from acid and wash thoroughly. Dissolve the color from the cloth by boiling, if necessary, in 5 per cent ammonia. Remove cloth, make solution acid with dilute hydrochloric acid, add a clean piece of woolen cloth and boil. Pure extracts give practically no color on second dyeing. Those colored with coal tar dyes color the wool a characteristic red or brownish red.

LEMON EXTRACT.

Next in importance to vanilla extract is lemon extract. Much work has been done by the Department on the subject of lemon extracts during the past year and it may not be out of place to here discuss the chemical side of the subject at some length.

The Extract, Spirit, or Essence of Lemon of the United States Pharmacopœia is a five per cent. solution (by volume) of oil of lemon in strong alcohol, together with the flavoring, coloring and other extractive matters of the lemon peel. The formula given for its preparation is as follows[c]:

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[a] Journ. Am. Chem. Society, Vol. XXI, No. 9.
[b] U. S. Dept. of Agr. Div. of Chem. Bul. 46, page 68.
[c] United States Pharmacopœia, 1890, page 375.

" Oil of lemon	50 cubic centimeters.
Lemon peel, freshly grated	50 grams.
Deodorized alcohol, A sufficient quantity to make	1,000 cubic centimeters.

Dissolve the oil of lemon in 900 cubic centimeters of deodorized alcohol, add the lemon peel and mascerate for twenty-four hours. Then filter through paper, and add, through the filter, enough deodorized alcohol to make the spirit measure 1,000 cubic centimeters."

Extracts made by this formula leave nothing to be desired and are generally accepted as a standard of purity and strength for commercial extracts.

Lemon oil is obtained by various processes from the fresh peel of the ordinary lemon. It is produced principally in the countries of southern Europe bordering on the Mediterranean sea. The greater part of the oil of commerce comes from what is known as the district of Messina which embraces the northeastern portion of the island of Sicily and the adjacent mainland to the west. It is imported to this country in sealed coppers of from 1 to 100 lbs each. The best grades of the oil are produced by simple expression; the inferior grades by distillation.

The lemon peel, as its name implies, is the rind of the ordinary lemon. It has a fragrant odor and a peculiarly bitter, aromatic taste. In experiments made it has been shown that the use of the lemon peel in the preparation of lemon extract is very essential. It not only makes a noticeable difference in the color and flavor of the extract itself but also in its qualities in cakes, frostings, etc. Dr. Scoville of the Massachusetts College of Pharmacy reports, as results of experiments carried out by Miss Bertha M. Haynes, that "without the peel the flavor appears thinner and less characteristic."[b]

Five extracts of lemon have been made in the laboratory using pure oil of lemon and lemon peel according to formulæ of the United States Pharmacopœia. The results of the analyses of these five extracts are found in Table IV.

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[b] Bulletin of Pharmacy, Vol. XVI, No. 5.

TABLE IV.—*Analysis of lemon extracts made in laboratory.*

Number.	Brand of oil used.	Specific gravity of extract 15.5° C.	Alcohol by weight, per cent.	Solids, per cent.	Ash, per cent.	Polarization, 200 mm. tube, degrees.	Lemon oil.				Refractive index of precipitated oil.	Specific gravity of original oil.	Refractive index of original oil.
							By polarization.		By precipitation.				
							By volume,* per cent.	By weight, per cent.	By volume, per cent.	By weight.			
1	Sanderson's	0.8212	86.94	0.82	0.005	+16.4	5.12	5.36	5.00	5.23	1.4688	0.8570	1.4704
2	Sicilian	0.8209	87.42	0.85	0.008	+16.5	5.15	5.39	5.00	5.23	1.4694	0.8575	1.4704
3	From Eimer & Amend	0.8217	86.82	0.86	0.007	+16.5	5.15	5.39	5.00	5.23	1.4691	0.8568	1.4706
4	Local	0.8226	86.24	0.78	0.004	+16.8	5.18	5.40	5.00	5.22	1.4691	0.8590	1.4704
5	Local	0.8222	86.70	0.70	0.006	+16.0	5.00	5.23	5.00	5.23	1.4686	0.8556	1.4694

* Factor 3.2 used.

TABLE V.—*Analysis of "Lemon Extracts" sold in Michigan.*

Laboratory number.	Labeled as	Capacity of bottle (fluid ounces.)	Specific gravity (15.5°C.).	Alcohol by weight, per cent.	Solids, per cent.	Ash, per cent.	Polarization 200 mm. tube, degrees.	Lemon oil by weight, per cent.	Refractive index of precipitated oil.	Color.
50	Extract of Lemon	2.1	0.9628	27.09	0.09	0.03	0.0	0.00	....	Coal tar dye.
51	Concentrated Extract of Lemon	1.8	0.9530	33.70	†0.87	0.02	+3.0	0.00	....	" " "
52	Lemon Flavor	4.0	0.8225	82.75	0.09	0.01	+20.0	6.53	1.4691	No foreign.
53	Extract of True Lemon	4.0	0.8403	76.90	0.16	0.01	+20.8	6.66	1.4694	" "
54	Concentrated Extract of Lemon	1.3	0.9568	28.91	0.10	0.01	0.0	0.00	....	Coal tar dye.
55	Pure Extract Lemon	1.0	0.9269	43.30	†0.62	0.02	+3.0	Trace	....	" " "
56	True Flavoring Lemon	2.1	0.8358	79.10	‡3.32	0.01	+24.5	7.87	1.4688	No foreign.
57	Pure Flavoring Extract of Lemon	1.4	0.9048	53.55	‡2.18	0.03	+3.0	0.87	....	Turmeric.
58	Double Extract Lemon	1.9	0.8501	75.80	0.13	0.02	+12.0	3.79	1.4691	Coal tar dye.
59	Concentrated Extract of Lemon	2.0	0.9132	57.86	0.09	0.03	+1.0	0.28	....	" " "
60	Double Concentrated Extract Lemon	3.0	0.9511	32.47	0.06	0.02	0.0	0.00	....	" " "
61	Extract of Lemon	1.9	0.9583	29.35	†0.50	0.03	+1.8	0.00	....	" " "
62	Double Concentrated Extract Lemon	2.0	0.9339	39.97	0.07	0.02	0.0	0.00	....	" " "
63	True Extract Lemon	4.0	0.9105	37.98	0.05	0.02	0.0	0.00	....	" " "
64	Extract Lemon	2.0	0.9307	43.90	0.02	0.01	0.0	0.00	....	" " "
65	Flavoring Extract Lemon	1.0	0.9602	26.20	0.03	0.01	0.0	0.00	....	" " "
66	Extract of Lemon	1.0	0.9581	29.50	0.04	0.02	0.0	0.00	....	" " "
67	Standard Extract Lemon	1.8	0.9091	60.42	0.12	0.01	+0.5	0.15	....	" " "
68	Highest Grade Lemon Extract	3.3	0.9262	44.70	†2.24	0.01	+9.8	0.46	....	" " "
69	Extract of Lemon	1.3	0.8696	70.25	0.02	0.00	+8.0	2.47	1.4694	" " "
70	Extract of Lemon	2.6	0.9766	21.32	‡3.22	0.02	0.0	0.00	....	" " "
71	Standard Lemon	4.0	0.9757	15.53	0.04	0.01	0.0	0.00	....	" " "
72	Pure Extract Lemon	2.1	0.8952	55.46	0.02	0.01	+4.0	1.20	1.4694	" " "
73	Best Extract Lemon	1.7	0.9649	25.60	‡0.75	0.04	0.0	0.00	....	" " "
74	Extract of Lemon	1.9	0.9360	40.75	0.05	0.03	0.0	0.00	....	" " "
75	Highly Concentrated Lemon	1.1	0.8429	76.02	0.06	0.01	+19.2	6.12	1.4691	Turmeric.
76	Extract of Lemon	2.0	0.8587	75.82	0.03	0.01	+8.0	2.50	1.4694	Coal tar dye.
77	Extract of Lemon	3.7	0.9192	50.60	‡4.88	0.02	+2.5	0.73	1.4688	" " "
78	Special Extract of Lemon	2.0	0.9707	19.03	0.07	0.01	0.0	0.00	....	" " "
79	Extract Lemon	1.4	0.8942	61.75	0.10	0.01	+3.0	0.89	1.4686	" " "
80	Double Lemon Flavoring	2.0	0.9639	24.73	0.05	0.02	0.0	0.00	....	" " "

81	Extract of Lemon	1.9	0.8645	71.41	‡5.04	0.01	+17.0	5.28	1.4691	" " "
82	Extract of Lemon	2.1	0.9723	19.38	0.05	0 02	0 0	0.00	....	" " "
83	Flavoring Extract Lemon	1.3	0.9228	46.57	0.06	0.04	0.0	0.00	....	" " "
84	Extract of Lemon	1.9	0.9137	51.79	0.05	0.02	+1.2	0.34	....	" " "
85	Extract of Lemon	1.0	0.9386	40.25	0.12	0.05	0.0	0.00	....	No foreign.
86	Triple Extract Lemon	1.4	0.9689	25.54	0.97	0.12	0.0	0.00	....	Vegetable.
87	Extract of Lemon	1.7	0.9509	33.86	0.11	0.04	0.0	0.00	....	Coal tar dye.
88	Concentrated Extract of Lemon	1.5	0.8634	72.12	0.11	0.00	+8.0	2.49	....	No foreign.
89	Flavoring Extract of Lemon	1.9	0.9813	11.96	0.07	0.00	0.0	0.00	....	Coal tar dye.
90	Supreme Lemon	1.3	0.8555	76.82	†1.30	0.04	+7.0	2.01	1.4697	No foreign.
91	Strictly Pure Extract Lemon	1.3	0.9573	30.07	0.12	0.08	0.0	0.00	....	Coal tar dye.
92	Extract Lemon	1.8	0.9571	30.71	‡0.82	0.03	0 0	0 00	....	" " "
93	Pure Extract Lemon	1.5	0.9382	40.67	0.08	0.01	0.0	0.00	....	" " "
94	Triple Extract Lemon	1.5	0.9319	41.52	0.08	0.03	0.0	0.00	....	" " "
95	Extract Lemon	2.0	0.9338	41.28	0.03	0.00	0.0	0.00	....	" " "
96	Pure Extract Lemon	1.1	0.9053	55.15	0.11	0.05	+2.0	0.57	....	No foreign.
97	Extract of Lemon	1.8	0 9539	32.12	0.06	0.02	0.0	0.00	....	" "
98	Concentrated Extract of Lemon	1.5	0.9530	33.63	‡2.15	0.03	0.0	0.00	....	Turmeric.
99	Extract of Lemon	1.5	0.9541	32.04	0.09	0.03	0.0	0.00	....	Coal tar dye.
100	Concentrated Extract of Lemon	2.0	0.8562	76.56	0.14	0.03	+6.4	2.00	1.4697	" " "
101	Extract of Lemon	3.5	0.9566	35 51	‡5.79	0.12	0.0	0.00	....	Turmeric.
102	True Extract of Lemon	4.0	0.9155	36.21	0.40	0.02	0.0	0.00	....	Coal tar dye.
103	Pure Extract of Lemon	2.0	0.8818	20.55	†2.98	0.23	+8 8	0.00	....	No foreign.
104	Extract of Lemon	2.0	0.9303	43.00	0.07	0.03	+1.0	0.28	....	Coal tar dye.
105	Pure Extract of Lemon	1.5	0.9619	26.26	†0.95	0.04	+2.0	0.00	....	No foreign.
106	Lemon	1.5	0.9498	34.36	0.14	0.05	0.0	0.00	....	Coal tar dye.
107	Extract of Lemon	2 0	0.9545	29.62	0.06	0.03	0.0	0.00	....	No foreign.
108	Extract of Lemon	2 0	0 8233	81.72	0.17	0.01	+28.0	9.14	1.4694	Turmeric.
109	Special Extract of Lemon	1.4	0.9539	32.16	0.12	0.07	0 0	0.00	....	Vegetable.
110	Extract of Lemon	1.1	0.8529	77.83	0.05	0.02	+12.0	*3.42	1.4659	No foreign.
111	Extract of Lemon	1.7	0.9758	16.22	†1.32	0.02	+5.0	0.00	....	Coal tar dye.
112	Extract of Lemon	1.4	0.9317	46.00	‡5.43	0 13	+1 0	0.28	....	Turmeric.
113	Pure Concentrated Extract Lemon	1.3	0.9377	40.40	0.08	0.02	0 0	0.00	....	"
114	Finest Extract Lemon	1.3	0.8411	76.98	0.07	0.01	+20.3	6 48	1.4691	Coal tar dye.
115	Fruit Extract Lemon	1.5	0.9206	78.65	0.06	0.01	+1.0	0.29	....	" " "
116	Double Strength Extract Lemon	1.5	0 8576	77.87	0 07	0.01	+5 6	1.75	1.4691	" " "
117	Extract of Lemon	1.8	0.9349	43.04	†1.99	0.02	+7.2	0.00	....	" " "
118	Highly Concentrated Lemon	2.0	0.8384	79.25	0.10	0.00	+14.6	4.67	1.4688	Turmeric.
119	Extract of Lemon	2.0	0.8246	81.82	0.32	0.00	+28.0	9 12	1.4691	No foreign.
120	Double Strength Extract of Lemon	2.0	0.9562	29.32	0.07	0.02	0.0	0.00	....	Coal tar dye.
121	Extract of Lemon	1.8	0.9710	19.00	0.13	0.05	0 0	0.00	....	" " "
122	Lemon Compound	2.1	0.9711	20.45	0.04	0.01	0 0	0.00	....	" " "
123	Extract of Lemon	1.8	0.9731	26.16	†3.37	0.02	+11.9	0.00	....	" " "
124	Extract of Lemon	2.5	0 9696	21.36	0.08	0.02	0.0	0.00	....	" " "
125	Extract of Lemon	1.8	0.9600	28.40	†0.55	0.03	+2.0	0.00	....	" " "

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* Probably contains turpentine. † Contains sugar. ‡ Contains glycerine.

TABLE V.—CONCLUDED.—*Analysis of "Lemon Extracts."*

Laboratory number.	Labeled as	Capacity of bottle (fluid ounces.)	Specific gravity (15.5°C.).	Alcohol by weight, per cent.	Solids, per cent.	Ash, per cent.	Polarization 200 mm. tube, degrees.	Lemon oil by weight, per cent.	Refractive index of precipitated oil.	Color.
126	Pure Concentrated Extract of Lemon	1.3	0.9125	50.63	†0.81	0.02	+3.6	0.71	....	Coal tar dye.
127	Extract of Lemon	1.9	0.9720	27.78	†3.16	0.10	+11.0	0.00	....	" " "
128	Extract of Lemon	1.5	0.9705	20.77	0.12	0.06	0.0	0.00	....	" " "
129	Triple Extract of Lemon	3.9	0.8578	77.97	0.09	0.04	+6.3	1.97	1.4694	" " "
130	Double Strength Extract of Lemon	4.4	0.9183	49.48	‡0.54	0.02	+1.9	0.55	1.4694	" " "
131	Compound Flavoring Extract Lemon	2.1	0.9710	20.41	0.11	0.04	0.0	0.00	....	" " "
132	Flavoring Extract Lemon	4.0	0.9759	16.35	0.05	0.02	0.0	0.00	....	" " "
133	Flavoring Extract Lemon	1.9	0.8596	76.25	0.09	0.02	+13.7	4.28	1.4700	" " "
134	Lemon Flavor	1.2	0.9759	16.38	0.10	0.06	0.0	0.00	....	" " "
135	Triple Strength Extract of Lemon	2.0	0.8454	78.66	0.11	0.00	+14.0	4.44	1.4694	" " "
136	Extract Lemon	4.3	0.9665	23.85	0.07	0.02	0.0	0.00	....	No foreign.
137	Compound Extract Lemon	1.1	0.9598	28.48	0.05	0.03	0.0	0.00	....	Coal tar dye.

† Contains sugar. ‡ Contains glycerine.

Terpenless Extract of Lemon.—In the manufacture of lemon extract the alcohol is by far the most expensive ingredient. The materials for a quart of lemon extract made according to the formula of the U. S. P. would cost about 75 cents, of which 60 cents would be for alcohol and 15 cents for the lemon oil and lemon peel. The manufacturer seeking to reduce the cost of manufacture naturally looks for some methods of reducing the most expensive ingredient, viz.: the alcohol. But lemon oil, like other oils, is not soluble in water or dilute alcohol and the addition of the water throws it out of solution, produces a white emulsion, which if allowed to stand will separate into two portions, the oil floating in a clear layer on top.

Lemon oil is not a simple substance but a combination of several ingredients, the exact nature of all of which is not known. The well-defined constituents of lemon oil are the hydrocarbous, or terpenes, dextro and laevo-limonene, which form the greater portion of the oil, about 90 per cent. But although the hydrocarbons make up the greater portion of the oil, the odor is largely due to the oxygenated compounds of the oil which occur to the extent of under 10 per cent. Of these the aldehyde citral is probably the most important and is generally recognized as being the chief odor bearer of the oil. The amount of citral present in lemon oil is variously stated by different authorities as from 2 to 10 per cent., 4 to 5 per cent. being the average amount from our own experiments. There are also other aldehydes, small amounts of an alcohol and its acetate, and other compounds known to be present in lemon oil but the exact nature and amount of these is not fully known. However, all combined produce a delicate flavor and aroma that is characteristic of the lemon.

The manufacturer of the terpenless lemon extract seeks to extract from the lemon oil only the odoriferous portion. For this purpose they claim that by a process of thoroughly churning the oil, with dilute alcohol for a length of time they remove the citral and other odor bearing constituents of the oil leaving behind only the terpenes, free from odor and flavor. After the churning process the mixture is allowed to stand until the oily portion separates when the diluted alcohol is drawn off, filtered through magnesia to remove the turbidity due to the presence of small globules of oil, then colored with a coal tar dye to imitate the natural yellow of the lemon when it is ready for the market. The process is simply an application on a larger scale of the practice of the old time pharmacist who ground up the lemon oil in a mortar with dilute alcohol, and sugar perhaps, to better facilitate the solution of the oil, and filtered through magnesia to obtain a clear solution. There is no question but what if a high percentage alcohol (at least above 40 per cent alcohol by weight) is used for the extraction, and the churning or mixing process is thoroughly done and repeated several times, starting with strong alcohol and diluting down, a product will be obtained that has a strong odor, but the odor is that of citral very plain and distinct, and not the fragrant combination of lemon oil. This difference is apparent even to the ordinary observer.

When the investigation as to the condition of the lemon extracts sold in the State was taken up by the Department last year, we secured 88 samples representing nearly every brand for sale in the State. (See Table V.) Of these 66 showed no lemon oil or less than one per cent.; eight contained 5 per cent or more of lemon oil, while three more contained nearly 5 per cent, showing that probably the 5 per cent was used in their manufacture. Some of the extracts were deficient in lemon oil

TABLE VI.—

Laboratory number.	Seal number.	Label.	Manufacturer.
5114	K-348	Flavoring Extract of Lemon	The J. P. Dieter Co., Chicago, Ill.
5132	R-165	Big Value Extract of Lemon	Arctic Mfg. Co., Grand Rapids, Mich
5141	K-349	Double Concentrated Extract of Lemon	Jennings' Flavor. Ex. Co., G'd Rapids, Mich.
5142	K-350	" " " " "	De Boe, King & Co., Grand Rapids, Mich
5143	K-351	Double Concentrated Messina Lemon	Jennings' Flavor. Ex. Co., G'd Rapids, Mich.
5144	L-269	Pure Extract Lemon	Quaker Medical Ass'n, St. Paul, Minn
5146	K-352	Simon Pure Extract of Lemon	Thompson & Taylor Spice Co., Chicago, Ill.
5147	K-353	Double Concentrated Extract Lemon	Jennings & Smith, Grand Rapids, Mich
5165	K-357	Royal Blue Flavoring Extract Lemon	W. J. Quan & Co., Chicago, Ill
5166	K-358	Atlas Triple Extract of Lemon	Reid Murdoch & Co., Chicago, Ill
5168	R-177	Imperial Concentrated Extract of Lemon.	Not given on label
5171	K-359	Coleman's Pure High Class Ext. of Lemon	Foote & Jenks, Jackson, Mich
5172	K-360	Concentrated Extract of Lemon	Gillett's Chemical Works, Chicago, Ill
5173	K-361	Biggest and Best Extract of Lemon	Atwood & Steele, Chicago, Ill
5175	K-363	Purity Concentrated Extract of Lemon	Temple Mfg. Co., Chicago, Ill
5176	K-364	Oakland Brand Extract of Lemon	Huron Mfg. Co., Detroit, Mich
5183	K-366	Concentrated Extract of Lemon	Gillett's Chemical Works, Chicago, Ill.
5194	R-181	Imperial Concentrated Extract of Lemon.	None given on label
5198	R-185	Double Strength Concent'd Ext. of Lemon	John M. Malcomson, Chicago, Ill.
5216	K-368	Standard Lemon Extract	Puhl-Webb Co., Chicago, Ill
5234	R-195	Concentrated Extract of Lemon	Grand Union Tea Co., Brooklyn, N. Y
5243	K-376	Gilt Edge Extract of Lemon	A. B. Judson & Co., Detroit, Mich
5244	K-377	Rococo Extract of Lemon	" " " " " "
5245	K-378	Tropical Extract of Lemon	Atwood & Steele, Chicago, Ill
5247	K-380	Double Extract of Lemon	E. W. Gillett, Chicago, Ill
5248	K-381	Standard Extract of Lemon	Gillett's Chemical Works, Chicago, Ill
5256	R-200	Monarch Brand Extract of Lemon	Reid, Murdoch & Co., Chicago, Ill
5257	R-201	Pure Concentrated Extract of Lemon	Seneca Chemical Co., Chicago, Ill
5267	K-384	Concentrated Extract of Lemon	None given on label
5287	L-272	Double Concentrated Extract of Lemon	De Boe, King & Co., Grand Rapids. Mich
5288	L-273	True Flavoring Messina Lemon Extract	Jennings & Smith, Grand Rapids, Mich
5289	L-274	Household Standard Extract Lemon	Household Extract Works, Milwaukee, W.
5290	L-275	Flavoring Extract of Lemon	The J. P. Dieter Co, Chicago, Ill
5291	L-276	Standard Flavoring Extract of Lemon	Tremont Chemical Works, Chicago, Ill
5292	L-277	Keystone Flavoring Extract of Lemon	A. J. Hilbert & Co., Milwaukee, Wis
5297	K-386	Double Concentrated Extract of Lemon	Jennings' Flavor Ex. Co., G'd Rapids, Mich.
5298	K-387	Double Strength Flavor'g Ext. of Lemon	Edwin J. Gillies & Co., New York, N. Y
5309	K-396	Northrop's Extract of Lemon	Northrop, Robertson & Carrier, Lansing M.
5312	K-399	Double Strength Flavor'g Ext. of Lemon	Edwin J. Gillies & Co., New York, N. Y
5320	S-286	Triple Extract of Lemon	B. S. Summers, Detroit, Mich
5321	S 287	Wreath Flavoring Extract of Lemon	The J. P. Dieter Co., Chicago, Ill
5334	R-209	Extract of Lemon	Chapman & Smith, Chicago, Ill
5355	L-297	Zipp's Lemon Compound	Zipp Mfg. Co., Cleveland, O
5356	L-298	Dragon Brand Extract Lemon	Michigan Chemical Co., G'd Rapids, Mich.
5358	K-406	Pure Extract of Lemon	T. H. Johnson Mfg. Co., Detroit, Mich
5360	K-408	Pure Extract of Lemon	H. H. Forkel Co., Detroit, Mich
5370	K-418	Fruit Mixture of Lemon	Phelps, Brace & Co., Detroit, Mich
5391	L-311	Puritan Brand Extract of Lemon	Not given on label
5392	L-312	Double Concentrated Messina Lemon	Jennings' Flavor. Ex. Co., G'd Rapids, Mich.
5413	R-229	Excelsior Lemon	Excelsior Extract Co., Cleveland, O
5416	K-422	Double Concentrated Extract of Lemon	Jennings & Smith, Grand Rapids, Mich
5474	U-76	Double Concentrated Messina Lemon	Jennings' Flavor. Ex Co., G'd Rapids, Mich.
5485	L-338	Concentrated Extract of Lemon	Loverin & Browne, Chicago, Ill
5494	R-250	Big Value Extract of Lemon Strengthened with Orange	Arctic Mfg. Co., Grand Rapids, Mich
16a		Emblem Extract Lemon	Not given on label
17a		F. & J. Pure Extract of Lemon	Foote & Jenks, Jackson, Mich
19a		Favoring Extract of Lemon	Joshua Anthony, Ushers, N. Y
30a		Concentrated Extract of Lemon	Grand Union Tea Co., Brooklyn, N. Y

Lemon extracts.

Retailer.	Specific gravity at 15.5°C.	Solids.	Sugar.	Alcohol, by weight.	Lemon oil.	Artificial color.
		%	%	%	%	
F. M. Quick, Nashville	0.94106	0.05	....	30.16	0.00	Yellow coal tar dye.
Chas. A. Babo, West Bay City	0.88688	*3 90	....	62.82	2.00	" " " "
W. D. Cook & Son, South Haven	0.95686	0.07	....	30.33	0.00	" " " "
John J. Bether, Muskegon	0.92277	0.08	....	48.00	0.00	" " " "
Daniel Christie, Muskegon	0.95647	0.06	....	30.60	0.00	" " " "
W. D. Bridge, Ludington	0.93935	0.11	....	40.00	0.00	" " " "
C. Walkerson, Muskegon	0.96000	0.55	0.53	28.40	0.00	" " " "
D. Kampenga, Muskegon	0.88541	*3.81	....	59.58	2.00	" " " "
J. O. Jeannot, Muskegon	0.94825	0.59	0.57	36.00	0.00	" " " "
" " "	0.93885	0.15	....	40.30	0.00	" " " "
Stewart Mercantile Co., Saginaw, E. S.	0.94745	0.63	0.60	36.20	0.00	" " " "
M. C. Lasher, Plainwell	0.98404	2.15	2.12	43.46	Trace	" " " "
Kollof, Marty & Co., Allegan	0.91541	0.33	0.30	53.57	"	" " " "
J. G. Stein Grocery Co., Allegan	0.97722	0.06	....	15 32	0.00	" " " "
Grange Store, Allegan	0.98760	0.08	....	57.64	Trace	" " " "
Burrel Tripp, Allegan	0.98241	0.10	....	11.15	0.00	" " " "
B. Steketer, Holland	0.91330	0.13	Trace	53.88	Trace	" " " "
Stewart Mercantile Co., Saginaw, E. S.	0.94550	0.44	0 42	36.10	0.00	" " " "
Malcomson's Tea Store, Saginaw, E. S.	0.85903	0.09	....	75.00	4.62	" " " "
Wm. Schoder, Battle Creek	0.97701	*2.52	....	30.15	Trace	" " " "
Grand Union Tea Co., Bay City	0.90755	0.06	....	52.20	0.80	" " " "
Louis K. Cook, Marshall	0.97312	2.81	2.65	25.70	0.00	" " " "
" " "	0.97392	3.26	3.10	26.80	0.00	" " " "
T. L. Cronin, Marshall	0.93843	0.03	....	42.75	Trace	" " " "
John J. Bither, Muskegon	0.83320	0.11	....	84.10	5.00	" " " "
" " "	0.91562	0.10	....	53.58	Trace	" " " "
Donsereaux & Co., Lansing	0.82441	0.17	....	75.73	6.50	" " " "
" " "	0.95667	0.08	....	30.52	0 00	" " " "
A. Danworth & Son, St. Joseph	0.96146	0.74	0.68	28.52	0.00	" " " "
F. C. Larsen & Co., Manistee	0.90804	0.05	....	58.11	0.00	" " " "
" " " "	0.94961	0.07	....	34.60	0.00	" " " "
" " " "	0.92366	0.04	....	45.55	Trace	" " " "
" " " "	0.93814	0.04	....	40.65	"	" " " "
" " " "	0.96811	*0.58	....	21.78	0.00	" " " "
" " " "	0.96903	0.05	....	21.95	....	None present.
Ball & Co., Grand Haven	0.95575	0.07	....	31.06	0.00	Yellow coal tar dye.
H. Koens, Grand Haven	0.82004	0.18	....	87.80	4.20	" " " "
J. H. Spoelman, Muskegon	0.85582	0.07	....	77.69	2.80	" " " "
Joseph Anderson, Muskegon	0.82000	0.13	....	87.80	4.20	" " " "
Grones & Brehmer, Detroit	0.93238	0.09	....	58.70	0.00	" " " "
People's Coffee Co., Detroit	0.97690	0.05	....	16.40	0.00	" " " "
Abram Horn, Rochester	0.86275	*5.90	....	71.53	5.30	" " " "
J. F. Ryan & Co., Big Rapids	0.97271	0.07	....	19.02	0.00	" " " "
Parker Bros., Big Rapids	0.94491	0.09	....	37.14	0.00	" " " "
Francis T. Schmidt, Detroit	0.94812	0 02	....	35.45	0.00	" " " "
Schneider & Rademacher, Detroit	0.97240	0.57	....	21.40	0.00	Foreign to lemon.
G. T. Stapleton, Detroit	0.92280	*6.22	....	49.36	0.00	Yellow coal tar dye.
O. J. Legg, South Boardman	0.92973	0.08	....	43.85	0.00	" " " "
H. Leach, South Boardman	0.95687	1.84	1.71	30.80	Trace	" " " "
J. W. C. Pendell, Saginaw	0.93732	0.03	....	40.09	"	" " " "
M. Knoolhuizen	0.85016	0.15	....	79.43	4.50	None present.
Parks Mercantile Co., Crystal Falls	0.95647	0.06	....	30.60	0.00	Yellow coal tar dye.
Roofstra & Elzenga, Atwood	0.93604	0.05	....	41.68	Trace	" " " "
I. Razek, Port Austin	0.96468	0.64	0.58	25.18	0.00	" " " "
Clark-Jewell-Wells Co., Grand Rapids	0.94790	0.21	Trace	42.47	Trace	" " " "
Not given	....	......	Pres'nt	....	0.40	" " " "
" "	....	......	....	....	0.00	" " " "
" "	0.86277	0.39	....	....	4.62	None present.

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* Contains glycerine.

TABLE VI.—CONCLUDED.—

Laboratory number.	Seal number.	Label.	Manufacturer.
48a	....	Standard Extract of Lemon................	De Boe, King & Co., Grand Rapids, Mich...
49a	....	Imperial Concentrated Extract of Lemon.	" " " " " " ...
50a	....	J. S. Messina Lemon..............	Jennings & Smith, Grand Rapids, Mich.....
51a	....	Richelieu Brand Extract of Lemon........	Sprague, Warner & Co., Chicago, Ill.......
53a	....	Double Concentrated Messina Lemon.....	Jenning's Flavor. Ex. Co., G'd Rapids, Mich.
56a	....	Imperial Extract of Lemon................	A. J. Hilbert & Co., Milwaukee, Wis.......
65a	....	Purity Extract Lemon......................	Purity Chemical Co., Chicago, Ill..........
66a	....	True Flavoring Messina Lemon Extract...	Jennings & Smith, Grand Rapids, Mich.....

Lemon extracts.

Retailer.	Specific gravity at 15.5°C.	Solids.	Sugar.	Alcohol, by weight.	Lemon oil.	Artificial color.
		%	%	%	%	
Smith, Thorndike & Brown, Marinette, Wis. (Jobbers)	0.94950	0.07	....	34.68	0.00	Yellow coal tar dye.
Smith, Thorndike & Brown, Marinette, Wis. (Jobbers)	0.93518	0.05	....	42.08	0.00	" " " "
None given	0.85100	0.09	....	73.40	4.20	None present.
" "	0.82456	0.16	....	83.17	5.94	" "
" "	0.95728	1.83	1.70	30.77	Trace	Yellow coal tar dye.
Smith, Thorndike & Brown, Marinette, Wis. (Jobbers)	0.84911	0.52	....	74.70	5.40	None present.
None given	0.85666	0.14	....	80.00	4.80	" "
" "	0.85136	0.10	....	79.00	5.00	" "

because of lack of knowledge on part of the manufacturer who "knew they used 5 per cent lemon oil" but didn't know "that the adding of a little water did any harm." But the great bulk of the samples, at least 75 per cent, were what might be called terpenless extracts, i. e., they had little or none of the hydrocarbon portion of the lemon oil present, in fact it was hard to find that any portion or semblance of lemon was present in some of them, the only similarity being the color. Of these, 12 samples contained less than 20 per cent alcohol, by weight, the lowest being 11.96 per cent and the average a little less than 29.00 per cent. It has been shown by analysis of the residue obtained in the actual manufacture of so called terpenless extract that 30 per cent alcohol with two thorough agitations removed less than 70 per cent of the citral, in fact it is impossible to remove all the citral by any "shaking out" process. It is possible by using stronger alcohol (at least 40 per cent by weight) and proprotionately a larger quantiy of the oil to obtain an extract that may contain, at least theoretically, as much citral as a 5 per cent solution of the oil would have, and such a preparation undoubtedly has value as a flavoring agent but whether it is equal in flavoring value to the Pharmacopœia preparation is a question in dispute.

Unfortunately there is not known to chemistry any method by which citral in alcohol solutions can be quantitatively estimated or positively identified as produced from lemon oil. Dilute alcoholic solutions of commercial citral probably form many of the so called terpenless extracts found on the market. Extracts made from a small percentage of oil or from exhausted oil must all be passed by the chemist with the present knowledge of the subject.

Our State Supreme Court in the case of People vs. Jennings, holds that the U. S. Pharmacopœia is the standard of strength for lemon extracts in this State, but they say further that any manufacturer has a right to manufacture his extract by any other process, provided the finished product equals in flavoring value the Pharmacopœia preparation.

To measure the flavoring value of lemon extract is beyond the field of chemistry and must be left to the expert cook.

Sixty-five samples of lemon extract were received from the inspectors for examination during the past year, thirty-five of which were terpenless extracts or at least of that nature. In Table VI will be found the analyses of these samples.

METHODS OF EXAMINATION OF LEMON EXTRACTS.

Specific Gravity.—Determine specific gravity at 15.5° C. with pycnometer.

Solid Residue.—Evaporate 10 grams of the extract on a water bath at a temperature below the boiling point of alcohol. In the absence of glycerine dry to constant weight at 100° C. Examine the residue for sugar and glycerol.

Ash.—Ignite the residue from 10 grams at a heat below redness. Examine ash for magnesia. Magnesia is used to clearify the terpenless and low alcohol extracts in which cases it may be detected in the ash.

Alcohol.—For extracts containing oil dilute 30 grams to 200 c.c. Pour the mixture into a dry erlenmeyer flask containing 3.5 grams light carbonate of magnesia, shake well and filter through large dry plaited filter. Determine the alcohol in 150 c.c. of the filtrate as given under vanilla extract, multiplying the results by four-thirds to correct for alliquot part taken. The alcohol in extracts having no oil may be determined without treatment with magnesia by method given under vanilla extracts. In absence of appreciable solids the alcohol may be approximately obtained direct from the specific gravity.

Lemon Oil.—(a) By polarization. Polarize the original extract in a 200 mm. tube at 20° C. using sugar scale. The reading divided by 3.2 will, in the absence of other optically active substances, be the percentage of lemon oil by volume. To obtain the percentage by weight, multiply percentage by volume by 0.86 and divide by specific gravity of the extract.

Where sugar is present wash the solid residue from 10 grams of the extract with 3 portions of 5 c.c. each of ether to remove waxy and fatty matters. Dry and weigh residue of cane sugar. Deduct 0.38 from the reading for each 0.1 per cent of sugar found.

By Precipitation.—Pipette 20 c.c. of the extract into a Babcock milk flask, add 1 c.c. dilute hydrochloric acid (1:1), then 25 to 28 c.c. of water warmed to 60° C., mix and stand in water at 60° C. for 5 minutes. Whirl in centrifugal for 5 minutes, fill with warm water to bring the oil into the graduated neck of flask, repeat whirling for 2 minutes, stand in water at 60° C. for a few minutes and read the per cent of oil by volume. Where the oil of lemon is present in amounts over 2 per cent, add to percentage of oil found 0.4 per cent to correct for the oil retained in solution. Where less than 2 per cent and more than 1 per cent is present add 0.3 per cent for correction. To convert into per cent by weight, proceed as directed under polarization.

When the extract is made according to the formula of the United States Pharmacopœia the results by the two above methods should agree within 0.2 per cent.

Refraction of Precipitated Oil.—Place a few drops of the oil obtained by above precipitation method in a Zeiss butyro-refractometer and read at temperature of 30° C. Normal lemon oil when treated under these conditions will have a refraction of 64° to 72° (refractive index 1.4685 to 1.4735) and a dispersion of 2°.

Detection of Methyl Alcohol.—One c.c. of the alcohol is diluted to 10 c.c. with distilled water. If the alcohol is already dilute, a correspondingly larger amount is diluted to 10 c.c. (For lemon extracts 2 to 3 c.c. of the extract itself or proportionate quantity of distillate may be used.) Oxidize the diluted alcohol by method of Mulliken & Schudder as follows: A copper spiral 3 to 3.5 c.m. is made by winding copper wire around a rod or pencil, twisting the ends of the wire into a stem long enough that the coil may be plunged to the bottom of the tube to be used. The 10 c.c. of diluted alcohol is placed in a test tube and floated in a beaker of cold water. Heat the coil to dull redness in oxidizing flame of a bunsen burner and plunge to the bottom of test tube containing the dilute alcohol. Withdraw the coil before it has completely cooled and plunge it into cold water to prevent oxidation as it coats itself more uniformly with copper oxide when the bright coil is heated. Repeat the process 6 or 7 times. Filter the liquid and boil in open test tube until its volume is reduced to 5 or 6 c.c. Cool and filter into white porcelain dish. If methyl alcohol is present the liquid will now give a distinct reaction for formaldehyde.

Formaldehyde may be tested for as follows: Add 5 drops of a solution of 1 gram phloroglucine in 100 c.c. of 20 per cent sodium hydroxide solution. The liquid acquires a bright red color, which persists for 2 or 3 minutes if formaldehyde be present.

The above method will detect the presence of methyl alcohol in 1 part in 20.

Tests for Color Matter.—As pointed out by Mitchell* valuable indications as to the color are frequently obtained by noting the changes on addition of hydrochloric acid as in determination of lemon oil by precipitation. Turmeric remains unchanged, some of the tropoelins change to orange or pink or red color and Naphthol yellows is partially and dinitrocresols are completely decolorized.

Make further tests for coal tar dyes by methods given under vanilla extract.

Test for turmeric by the boric acid method.

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* Bul. 65, U. S. Dept. of Ag., Bureau of Chem., page 74.

TABLE VII.—*Ethereal*

Laboratory number.	Seal number.	Labeled as	Manufacturer.
5033	K-320	Ras-Bart	Foote & Jenks, Jackson, Mich
5034	K-321	Plen-Art	" " " " "
5107	S-226	Artificial Extract of Strawberry	E. C. Harley & Co., Dayton, O
5108	S-227	Artificial Extract of Pineapple	" " " " " "
5179	U-53	Artificial Banana Extract	Van Duzer Extract Co., New York
5294	L-279	Essence of Raspberry	Durand & Kasper, Chicago, Ill
5295	L-280	Essence of Banana	" " " " "
5296	L-281	Essence of Pineapple	" " " " "
5317	L-286	Extract Artificial Pineapple	Reid, Murdoch & Co., Chicago, Ill
5339	S-295	Artificial Pineapple	Campbell Extract Co., Toledo, O
5453	R-210	Pure Extract of Strawberry	Bertlow Chemical Co., Detroit, Mich
5454	R-241	Extract of Raspberry	Lambert & Lowman, Detroit, Mich
5457	R-244	Plen-Art	Foote & Jenks, Jackson, Mich
5458	R-245	Stra-Bart	" " " " "
5459	R-246	Ban-Art	" " " " "
5460	U-62	Extract Artificial Strawberry	Joannes Bros. & Co , Green Bay, Wis
5461	U-63	Artificial Strawberry	A. J. Hilbert & Co., Milwaukee, Wis
5462	U-64	Artificial Pineapple	" " " " " "
5463	U-65	Artificial Raspberry	" " " " " "
5464	U-66	Extract Artificial Strawberry	Reid, Murdoch & Co., Chicago, Ill
5465	U-67	Extract Strawberry	Smith, Thorndike & Brown, Marinette, Wis.
5478	U-75	Artificial Extract of Banana	Joannes Bros. & Co., Green Bay, Wis

TABLE VIII.—

Laboratory number.	Seal number.	Label.	Manufacturer.
5351	L-293	Dr. Hull's Non-Alcoholic Flavoring Powder, Lemon	Chas. S. Horner, Pittsburg, Pa
5352	L-294	Dr. Hull's Non-Alcoholic Flavoring Powder, Vanilla	" " " "
5388	L-308	Success Flavoring Powder, Vanilla	Page Supply Co., Milwaukee, Wis
5389	L-309	" " " Wintergreen	" " " " "

flavoring preparations.

Retailer.	Result of examination,
Jas. J. Packard, Sturgis	A mixture of compound ethers, alcohol and coloring matter.
" " "	" " " " " " " " "
Not given	" " " " " " glycerine and coloring matter.
" "	A mixture of compound ethers, alcohol, glycerine and coloring matter.
Negaunee Cooperat'e Co., Negaunee	A mixture of compound ethers, alcohol and coloring matter.
M. P. Neilson, Manistee	" " " " " " glycerine and coloring matter.
" " "	A mixture of compound ethers, alcohol, glycerine and coloring matter.
" " "	A mixture of compound ethers, alcohol and coloring matter.
W. H. Smith & Son, Charlevoix	" " " " " " " " "
B. W. Barrow, Blissfield	" " " " " and alcohol.
H. W. Monroe, Howell	" " " " " sugar, alcohol and coloring matter.
" " "	A mixture of compound ethers, alcohol and coloring matter.
C. L. Cook & Son, Howell	" " " " " " " " "
" " " " "	" " " " " " " " "
" " " " "	" " " " " sugar, alcohol and coloring matter
Soderber & Aronson, Norway	A mixture of compound ethers, glycerine and coloring matter.
" " " "	" " " " " alcehol, glycerine and coloring matter.
" " " "	A mixture of compound ethers, alcohol and coloring matter.
" " " "	" " " " " " glycerine and coloring matter.
A. T. Sethney, Norway	A mixture of compound ethers, alcohol and coloring matter.
A. J. De Roeck, Norway	" " " " " " " " "
Parks Mercantile Co., Crystal Falls	" " " " " " glycerine and coloring matter.

Flavoring powders.

Retailer.	Analysis.
W. H. Arbuckle, Lake City	A mixture of granulated sugar, corn starch and lemon oil.
" " " "	" " " " " " " vanillin (0.70%) and coumarin (0.45%).
Cole Bros., Kalkaska	Consists of a mixture of cane sugar and vanilla extract.
" " "	" " " " " " " " wintergeen oil.

ETHEREAL FLAVORING PREPARATIONS.

Besides the true extracts and fruit juices there are also found upon the markets many preparations of the compound ethers supposed to represent odors similar to those of different fruits. These are in general the same, the only difference being the coloring matter used and the label. If these preparations contain nothing injurious to health they are salable under the provisions of the General Food Law, governing the sale of "mixtures or compounds," i. e., they must be labeled under their own distinctive name and in such a manner as to show they are a mixture or compound and the label must bear the name and address of manufacturer or compounder.

Twenty-two of these preparations were received at the laboratory for examination during the past year. The results of the examination of the same is shown in Table VII. None of them were properly labeled.

FLAVORING POWDERS.

Four samples of so called "flavoring powders" were examined during the year. These are in general composed for the most part of common sugar mixed with the oil or other principal flavoring ingredient of the kind they represent. Such goods are salable under the food law provided they are labeled in such a manner as to show they are a "mixture" or "compound," contain nothing injurious to health and the label bears the name and address of the manufacturer.

For full description and result of analysis of samples see Table VIII.

HONEY.

Only two samples of honey were received at the laboratory for examination during the past year. One of these proved on examination to be pure honey, the other contained a large amount of glucose.

HEALTH FOOD.

One sample (R-167) of cereal product labeled "Health Food" was received for examination during the year. The sample was found to consist of a mixture of wheat and other grains and ground peanuts. Package was labeled in compliance with requirements of the food law.

JELLIES, JAMS AND PRESERVES.

The framers of the Food Laws of the State of Michigan, recognizing the need of protection against fraud and deception in the manufacture and sale of fruit products embraced in the General Law the following section (C. L. 5022):

"No person, firm or corporation in this State shall manufacture for sale or sell, or offer or expose for sale, as fruit jelley or fruit butter, any jelly or imitation fruit butter or other similar compound made or composed in whole or in part of glucose, dextrine, starch or other substances and colored in imitation of fruit jelly or fruit butter; nor shall any such jelly, fruit butter or compound be manufactured or sold, or offered for sale, under any name or designation whatever, unless the same shall be composed entirely of ingredients not injurious to health and shall not be colored in imitation of fruit jelly, and every can, pail or package of such jelly or butter sold in this State shall be distinctly and durably labeled 'Imitation fruit jelly or butter,' with the name of the manufacturer and the place where made."

In order to correctly interpret the above section, it is necessary first, to define the various fruit products included within its provisions.

Pure Fruit Jelly is a translucent gelatinous product produced by boiling the juice of the fruit specified with or without cane sugar to an elastic consistency.

Pure Fruit Butter consists of the fruit specified cooked and stirred in a syrup of apple (or pear) juice to a smooth buttery consistency.

Pure Fruit Jam, Preserve or *Marmalade* consists of the fruit specified preserved in a thick syrup of sugar and water.

In this country the word jam is generally applied to the product produced from the small fruits by cooking or mashing them until the shape of the fruit is destroyed; while in preserves the pulp of the fruit is not broken up. These terms are however used interchangeably by different manufacturers. The term Marmalade was originally applied to a jam prepared from quinces, it being derived from *Marmelo*, the Portuguese word for quince. The term, however, has been gradually extended in some countries to cover all jams. All this has led to a confusion of terms, even to jelly. There is, however, a plain distinction; jam, preserves or marmalade are prepared from the pulp of the fruit (and in most small fruits, the seeds and skins), jelly from the juice, and fruit butter from both pulp and juice with the omission of the sugar.

The first portion of the above section prohibits the manufacture and sale as and for the pure product of any jelly or butter (jam, preserve, marmalade, etc.) that "contains glucose, dextrine, starch or other substances and colored in imitation of fruit jelly or butter." The second portion of the section provides for the sale of jellies, butters, jams, etc., made with glucose, dextrine, starch or other harmless substances and not colored in imitation of the pure product by requiring such compounds (if not artificially colored) to be labeled "Imitation Fruit Jelly or Butter" (jam, preserves, marmalade, etc.). If artificially colored they are not salable at all.

The base of the imitation fruit jellies, jams and preserves is apple juice obtained principally from the waste parings, cores, etc., of the apple drying factories. This boiled to a suitable consistency with glucose, colored with a coal tar dye and flavored with compound ethers or with acids is often sold for the pure fruit jelly. Phosphoric acid is used to a considerable extent to assist in the jellifying. The imitation jams and preserves are formed by mixing and cooking with the jelly a small amount of the fruit specified. This apple juice often forms the only fruit portion of the jellies purporting to be made from currants, strawberries, raspberries, etc.

Pie Filling is a term applied to a fruit product of recent introduction, in this State at least, which is sold mostly to the baker trade. It is similar to the imitation butters or jams in appearance and composition, consisting of glucose or starch, apple juice and a small amount of pulp or seeds of the fruit represented. These goods come directly under the provisions of the section above referred to, and to be sold in this State they must not contain artificial coloring matter or any material injurious to health and labeled as imitation.

During the past year 128 samples of fruit jellies, jams, etc., have been received at the laboratory for examination, only 7 of which were found to be pure as represented. A detailed report of the samples found adulterated is found in the Table IX.

METHODS OF EXAMINATION OF JELLIES, JAMS AND PRESERVES.

Solids.—Into a flat bottom platinum dish containing a small glass stirring rod and about 10 grams of ignited sand, weigh 2 grams of the thoroughly pulped material and add about 50 c.c. of water. Warm on water bath and stir until the jelly has completely dissolved. Evaporate to dryness, stirring when the mass begins to stiffen to break up and thoroughly mix the mass. Dry in oven at 100° C. to constant weight.

For jellies that contain no insoluble matter 10 grams may be dissolved in water and made to 100 c.c., and an aliquot portion taken for the estimation.

Ash.—Ignite 2 grams of the material in a platinum dish in muffle furnace at heat below redness. Test the ash for phosphoric and sulphuric acids.

Polarization.—Dissolve 13.024 grams of the jelly in about 70 c.c. of water add excess of lead subacetate and 2 c.c. of alumina cream and make volume to 100 c.c. Filter and polarize in 200 mm. tube at 20° C., observing the temperature of the solution. Invert 50 c.c. of the filtrate by addition of 5 c.c. of c.p. hydrochloric acid, and heating to 86° C., keeping at that temperature for 10 minutes. Cool quickly, filter from lead chloride if necessary and polarize at same temperature as employed in direct reading.

Cane Sugar.—Determine cane sugar by Clerget formula.

$$S = \frac{(a-b)\ 100}{144 - \frac{t}{2}}$$

Reducing Sugars.—Take 10 c.c. of filtrate used for direct polarization in 200 c.c. flask add enough of saturated solution of sodium sulphate to precipitate excess of lead, and complete volume to 200 c.c. Filter and determine reducing sugar by Allihn's method, expressing result as dextrose.

When only a small amount of cane sugar is present it is best calculated from the increase in reducing sugars after imersion.

Determine reducing sugars after inversion using 10 c.c. of the inverted solution for polarization, making to 200 c.c. as above for reducing sugars direct. The per cent of increase in reducing sugars after inversion multiplied by 0.95 equals per cent of cane sugar.

Detection of Preservatives.—Dissolve about 25 grams of sample in water, acidify with dilute sulphuric acid and extract with ether. Remove ether layer and allow to evaporate spontaneously. Take up the residue with 3 or 4 c.c. of hot water and test for salicylic acid, benzoic acid and saccharin, as follows:

(a) *Salicylic Acid.*—To a few drops of the extract add 1 or 2 drops of a 0.5 per cent solution of ferric chloride. A purple color indicates the presence of salicylic acid.

(b) *Benzoic Acid* (Mohler's test).—Evaporate a portion of the extract to dryness and heat with 2 to 3 c.c. of strong sulphuric acid until white fumes appear. Add a few crystals of potassium nitrate and continue heating until solution is colorless or pale straw color. Cool and dilute with 5 c.c. of water. Add ammonia water to

ation.					
Invert.	Temperature, C°.	Glucose.	Preservative.	Foreign coloring matter.	Remarks.
-4.0°	24°	Present	....	....	A gelatine preparation. Contains glucose.
79.4	24	“	....	Coal tar dye..	Imitation fruit jelly, colored.
9.1	24	“	....	“ “ “ ..	“ “ “ “
1.8	24	“	....	“ “ “ ..	“ “ “ “
78.7	24	“	....	“ “ “ ..	“ “ “ “
3.6	27	“	Benzoic acid...	“ “ “ ..	“ “ “ “

excess and then a few drops of ammonium sulphide. A deep red color results if benzoic acid is present.

(c) *Saccharin.*—Saccharin is indicated by the sweet taste of extract even on further dilution. Add to the remaining portion of extract (if no salicylic acid be present) 1 to 2 grams of sodium hydroxide, and heat in oil bath at temperature of 250° C. for 20 minutes. After cooling, dissolve in water, acidify with dilute sulphuric acid, extract with ether and test for salicylic acid as described under salicylic acid.

Detection of Foreign Coloring Matters.—Valuable indications of presence of foreign coloring matter may be obtained by noting color of filtrate and precipitate with lead acetate. Lead acetate should remove all color from a solution of pure fruit jelly.

Test a solution of the jelly in water for coal tar dyes by method of Sostegni & Carpenteri. See methods analysis of vanilla extract.

PIE FRUITS.

Four samples of a product called "Pie Fruits" were received at the laboratory during the past year. These consist of a dry mixture of ingredients for the filling of pies. An examination of the samples showed them to consist of sugar, starch or flour, coloring matter, and the fruit specified or in case of small fruits, usually a mixture having currants for one of the fruits.

These products are salable under the food law if so labeled as to show they are a mixture and the package bears the name and address of the manufacturer. The samples received during the past year were not so labeled.

LARD.

Only 5 samples of lard were received for examination during the past year. four of which were found to be pure and one to be adulterated with cotton seed oil and beef stearin. Sections 10, 11 and 12 of Act No. 193, P. A. 1895, allows the sale of mixtures of animal or vegetable oils or fats other than hog fat in the form of lard, provided each tierce, barrel, tub, pail or other package containing the same be distinctly and durably labeled "Lard Compound." It is further required that each and every parcel sold at retail be stamped or labeled "Lard Compound" in letters not less than one-half inch in length.

"COOKING OIL."

Two samples of a product sold to bakers as "Cooking Oil" was examined and both found to be a product of cotton seed oil.

MILK.

During the past year sixty-six samples of milk were received at the laboratory for examination. Fifty-six of these were found to be pure and ten to be adulterated. No preservative was found in any of the samples. A detailed report of the adulterated samples is found in Table X.

Section 12 of Act 219, Public Acts 1889, provides that milk shall be deemed to be adulterated if found upon analysis to contain "more than eighty-seven and fifty one hundredths per centum of watery fluid. or to contain less than twelve and fifty one hundredths of milk soldis, per centum, or less fat than three per centum, or if the specific gravity at 60 degrees Fahrenheit is not between 1 29-1000 to 1 33-1000.

Act No. 106, Public Acts 1899, provides further that "No person shall offer or expose for sale, sell, exchange or deliver, or have in his possession with intent to sell, exchange or deliver, any milk in which water, chemicals or preservatives, or any other foreign substance, has been added."

CREAM.

Only one sample of cream was received for examination during the past year. This sample contained 15.80 per cent butter fat. The standard for cream proposed by the committee on standards of the Official Association of Agricultural Chemists fixes 18.00 per cent as the minimum amount. Nine of the states having food laws have a standard for cream. This standard varies in the different states from 15 per cent to 22 per cent. There should be a standard for cream fixed by statute in this state that the consumer may know what he is getting when he purchases this much used product.

"NUTRIUM."

A sample of a milk product sold to the baker trade as "Nutrium" and manufactured by the National Nutrient Co., 79 Hudson street, Jersey City, N. J., was received for examination. The description on the package says: "Nutrium Milk Powder is a product from fresh sweet milk without the use of chemicals or ingredients of any kind, nor are they subsequently added. The product is absolutely pure. the greatest care being taken in its preparation, and will give the same results as liquid milk, as it is milk.

"In using Nutrium in the bakery it can be put to every use that pure sweet milk is used for. Where one quart of milk is required in a cake, mix, sift two ounces of Nutrium, dry in the flour and add one quart of water in making dough. Where a stronger milk is required, use three ounces to the quart. For custard pies and cream puff filling, dissolve one pound to a gallon of hot water and let stand 10 or 15 minutes and use the same as ordinary milk."

An analysis of the product gave the following results:

Water	6.40 per cent
Ash	7.09 per cent
Butter fat	4.45 per cent
Protein (N.x 6.25)	30.10 per cent
Milk sugar	48.92 per cent

Above shows sample to be skimmed milk reduced to a dry and powdered form.

The product is also used in the preparation of so called "milk-cocoa" products.

TABLE X.—*Milk found adulterated.*

Laboratory number.	Sample number.	Retailer.	Specific gravity (15.5°C.)	Water.	Solids.	Fat.	Solids, not fat.	Ash.	Preservative.	Remarks
				%	%	%	%	%		
5375	T-1210	G. Rapp. Lansing	1 029	88.58	11.42	3 00	8.42	0.74	None	Below standard in solids.
5379	L 299	S. E McCool, Cadillac	1.029	88.44	11.16	3.00	8.16	0.62	"	" " " "
5380	L-300	" " "	1.030	88.79	11.21	3.00	8.21	0.61	"	" " " "
5381	L 301	Chas. Olmstead, Cadillac	1.031	88.41	11.59	3.10	8.49	0.72	"	" " " "
5384	L-304	C. Jorgenson, Cadillac	1.032	88.50	11.50	3.00	8.50	0.74	"	" " " "
5417	K-423	Mason Hakes, Lansing	1.036	89.66	10 34	1.12	9.22	0.70	"	Skimmed milk.
5419	T-1284	H. E. Peters, Benton Harbor	1.028	90.56	9.44	2.25	7.19	0.56	"	Watered milk.
5442	L 322	S. E McCool, Cadillac	1.033	88.06	11.94	3.10	8 84	0.74	"	Below standard in solids.
5444	L-324	Thomas Alexander, Cadillac	1.031	88.27	11.73	3.41	8.32	0 78	"	" " " "
55a	....	Not given	1.032	89.37	10.63	2.05	8.58	0.55	"	" " " " and fat.

METHODS OF EXAMINATION OF MILK.

Specific Gravity.—Determine specific gravity with pycnometer at temperature 15.5° C. (= 60° F.)

Total Solids.—Evaporate 5 grams of milk in flat bottom platinum dish to apparent dryness on water bath and then to constant weight at 100° C.

Ash.—Ignite residue from total solids in muffle furnace at a heat below redness.

Fat.—Determine fat by Babcock test or gravimetrically as follows: Provide a hollow cylinder of perforated sheet metal 60 mm. long and 20 mm. in diameter, closed 5 mm. from one end by disc of same metal. Fill loosely with dry woolly asbestos and weigh. Introduce a weighed quantity of the milk, (about 5 grams). Dry at 100° C. to constant weight (about 4 hours is required). Place in extraction cartridge in Soxhlet extractor and extract with anhydrous ether 4 hours. Evaporate ether, dry fat at 100° C. and weigh. The number thus obtained may be checked by drying and weighing cylinder containing asbestos.

Detection of Preservatives: (a) *Boric Acid.*—Mix 10 c.c. of sample with 6 or 7 drops of C. P. hydrochloric acid. Immerse a piece of delicate turmeric paper and dry on watch glass on water bath. If boric acid be present the turmeric paper will turn to a cherry red color on drying, which is changed to a bluish-black when exposed to ammonia fumes.

(b) *Formaldehyde.*—(1) To 10 c.c. of milk in a test tube add by means of a pipette 2 c.c. of a solution of 1 gram phloroglucine in 100 c.c. of a 20 per cent solution of sodium hydroxide plunging the end of the pipette to the bottom of the test tube before allowing the phloroglucine-soda solution to run out. A pink red color at zone of contact shows presence of formaldehyde.

(2) Slowly heat in a test tube with constant shaking 10 c.c. of milk, 5 c.c. of hydrochloric acid and 1 or 2 drops of ferric chloride solution. In presence of formaldehyde the liquid gradually turns a violet color.

(3) Distill over a few c.c. from the milk. Upon a layer of concentrated sulphuric acid in a white porcelain dish drop a few crystals of morphine. Pour on one side of the dish about 1 c.c. of the distillate and then gently tip dish so that layer of distillate will reach the crystals of morphine. A dark purple color shows formaldehyde. Acetahdehyde gives an orange color.

OLEOMARGARINE.

During the past year 71 samples of oleomargarine were received at the laboratory for examination, 15 of which were found to be adulterated and 56 to be pure.

Act No. 22, Public Acts 1901, prohibits the manufacture or sale in this State of any oleomargarine "which shall be in imitation of yellow butter produced from pure unadulterated milk or cream from the same." In two instances (People vs. Rotter and People vs. Phillips) the State Supreme Court has upheld the validity of this act in prohibiting the sale of oleomargarine colored in imitation of yellow butter by the use of artificial coloring matter. In the case of Bennett vs. Carr, the State Supreme Court holds that the act does not prohibit the sale of oleomargarine of a yellow color where the color is produced by the fats and oils essential to and allowable by the law in the manufacture of the oleomargarine.

Act No. 147, Public Acts 1889, requires that the proprietor or keeper of any store, hotel, restaurant or other place where oleomargarine is sold or furnished to have placed on the walls thereof a white placard on which is printed in black ink in plain Roman letters of not less than three inches in length and not less than two inches in width the words "Oleomargarine Sold or Used Here."

A detailed report of the analyses of samples sold in violation of the above acts is found in Table XI.

TABLE XI.—*Oleomargarine found adulterated.*

Laboratory number.	Seal number.	Manufacturer.	Retailer.	Refractive index at 25°C.	Reichert-Meissl number.	Foreign coloring matter.	Remarks.
5039	S-208	Capitol City Dairy Co., Columbus, O.	Francis T. Schmidt, Detroit	1.4642	0.72	Annatto	Artificially colored.
5040	S-209	G. H. Hammond Co., Hammond, Ind	Peter Smith & Sons, Detroit	1.4660	0.67	Yellow azo dye	" "
5042	S 211	Capitol City Dairy Co., Columbus, O	McWilliams & Moore, Detroit	1 4642	0.78	Annatto	" "
5044	K-332	G. H. Hammond Co., Hammond, Ind	Morse Dry Goods Co., Grand Rapids	1.4660	0.69	Yellow azo dye	" "
5046	S-213	Not given	Lafer Bros., Detroit	1.4649	0.78	Annatto	" "
5052	K 337	G. H. Hammond Co., Hammond, Ind	Morse Dry Goods Co., Grand Rapids	1.4656	0.45	Yellow azo dye	" "
5055	L-255	Not given	" " " " " "	1.4660	0.40	" " "	" "
5056	S-214	Capitol City Dairy Co., Columbus, O.	Edward Roulo, Detroit	1.4642	0 70	Annatto	" "
5057	S- 15	" " " " " "	Chas. Addison, Detroit	1.4642	0.62	"	" "
5060	S-217	G. H. Hammond Co., Hammond, Ind	Francis T. Schmidt, Detroit	1.4660	0.40	Yellow azo dye	" "
5061	S-218	Capitol City Dairy Co., Columbus, O	Peter Smith & Sons, Detroit	1.4642	0.64	Annatto	" "
5087	L-256	G. H. Hammond Co., Hammond, Ind	Cobbs & Mitchell, Springvale	1.4642	0.69	Yellow azo dye	" "
5093	S-224	Not given	Lafer Bros., Detroit	1.4646	0.65	" " "	" "
5094	S-225	Capitol City Dairy Co., Columbus, O	McWilliams & Moore, Detroit	1.4642	0.73	Annatto	" "
5440	L-330	Not given	American House, Cadillac (dining room)	1.4646	1.24	None	No signs displayed

METHODS OF EXAMINATION OF OLEOMARGARINE.

Refractive index, Reichert-Meissl number, etc. See methods of examination of butter.

DETECTION OF FOREIGN COLORING MATTER.

Preliminary Test.—Take 2 portions of about 2 grams each of the filtered fat and dissolve in separate test tubes with ether. To the one test tube add 1 or 2 c.c. of dilute hydrochloric acid and to the other the same quantity of very dilute potassium hydroxide solution, shake and let stand. If the commonly used yellow azo dye be present the tube containing the acid will give a bright pink to deep red color according to amount of coloring matter present to the acid layer, while the potash solution of the second tube will be uncolored. On the other hand if annatto be present the potash layer will be colored yellow while the acid solution of the first tube remains uncolored.

To verify the presence of yellow azo dye, add a small amount of Fuller's Earth to some of the filtered fat, either in a test tube or white porcelain dish and thoroughly mix and let stand. The earth on settling out will acquire a pink to violet red color if azo dye be present. (Geisler Method*).

The presence of annatto may be verified by Cornwall's method,† as follows: Five to ten grams of the fat is dissolved in 50 c.c. ether in a separatory funnel and the solution vigorously shaken with 15 to 20 c.c. of a very dilute solution of potassium hydroxide and then allowed to stand a few hours. The aqueous layer is then drawn off, evaporated to dryness and tested with concentrated sulphuric acid. Annatto gives a blue or violet blue at first, changing quickly to green, and finally to brown.

SPICES.

Under the term spice is included a large number of pungent or aromatic vegetable substances used for seasoning food. The most important of these is pepper. During the past year a large number of analyses were made of the different varieties of pepper and the adulterants commonly used in the same. The results of these analyses together with a description of the varieties, etc., was published in Bulletin No. 94 of the Department, and we here repeat the descriptive matter and analyses because of their importance in showing what pure pepper is.

PEPPER.

Pepper is the fruit of the *Piper nigrum* L., a perennial climbing shrub native to the forests of western and southern India, but long cultivated in Sumatra, Java, Borneo, Ceylon, Malay Peninsula, Siam and various other tropical countries. The fruit is a small round berry which grows in loosely packed clusters each cluster consisting of from twenty to thirty of these berries closely attached to a common pendulous fruit stalk. Pieces of this fruit stalk may often be found in samples of whole black pepper, and when examined will show the depression formed where the berries were attached. The pepper vine grows to a height of eight to twelve feet and is usually supported by poles or by trees planted for that purpose.

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* Journ. Amer. Chem. Society, vol. XX, No. 2, page 110.

† Chem. News, 1877, vol. 5, page 49. U. S. Dept. Ag. Div. of Chem., Bul. 13, pt. 1, page 28.

Black Pepper is the dried immature berries of the *Piper nigrum* L. To obtain black pepper, the berries are gathered as soon as one or two on the cluster commences to turn red. After removing them from the stem they are dried in the sun or near a mild fire. By this treatment the outer fleshy portion of the berry shrivels, turns to a brown or black color and becomes quite hard and brittle and adherent to the stony, inner portion, thus forming a hardened wrinkled cortex. The manner of drying the pepper berry is of considerable importance. We are informed that many varieties of black pepper are dried on the ground.[*] "A piece of ground is carefully smoothed and pounded and made as hard as possible, and the berries are piled up on this piece of ground to dry. When the goods are dry they are taken up and bagged. In the process of taking up from the ground, there is a little earth taken up with the berries, some of the berries also become coated with earth from the mere fact of lying on the ground." This may be observed by an examination of sample of whole sun-dried black pepper. It has also been said that a good deal of the sand and clay found in some peppers is due to the trailing habit of the vine which brings the pendulous clusters in close proximity to the ground. From what information we have been able to obtain, however, it seems that the lumps of dirt and the greater part of the earth on the berries themselves comes not from the trailing habit of the vines, but from the fact that the goods themselves are dried on the ground. No pepper should, however, contain an excessive amount of dirt.

The commercial varieties of black pepper are Singapore, Tellichery, Allepey, Trang, Acheen, etc., named probably from the province in which they are grown or port from which shipped. We also obtained in this investigation two other varieties of black pepper prepared by some process that improves their appearance. They are known as Shot Pepper, and Mangalore Pepper.

Shot Black Pepper (140-141[†]) it is said is sometimes prepared by floating in water, that going to the bottom forming the shot pepper, while the lighter portions are skimmed from the surface. This process has, however, proved to be injurious to the berry and the pepper is now generally separated in a column of air.[c] It is oiled to give it a better appearance.

Mangalore Pepper (138-139[†]). The corns of this variety are very large, twice the size of ordinary pepper, of a deep, black color, very clean and of uniform size. When ground they give a powder of a characteristic greenish-black appearance.

Singapore Pepper (142-149[†]) is grown in the Malay peninsula, principally in the southern extremity known as State of Johore. It constitutes a considerable portion of all the pepper raised, and by reason of its dark color and fairly uniform quality, is a good looking pepper for which it is esteemed, but for grinding purposes it has not been heretofore so highly regarded because of its smoky odor. Singapore pepper is dried over smoke. The pepper plantations and gambier plantations of Johore are usually under one management, and in boiling down the gambier to make the vegetable extract there is suspended over the kettle mats on which are placed quantities of Singapore pepper. The smoke from the furnace dries, and at the same time blackens and gives the unmistakable smoky smell which is characteristic of Singapore pepper. This smoky odor is retained to a considerable degree even after the pepper is ground. It is one of the tests by which the pepper merchant determines whether a given sample is Singapore or not.

[†] Personal communication from E. R. Durkee & Co., New York.

[†] Refer to samples in following tables of analyses.

[c] Personal communication from E. B. Millar & Co., Chicago.

TELLICHERRY (158-162) and ALLEPEY (164-168) PEPPERS are from British India. They are very similar in appearance, being of light brown color. They are sun-dried. *Malabar pepper* (163) also comes from India.

TRANG PEPPER (169-173) is shipped from Penang and is grown in either Java or Sumatra.

LAMPONG PEPPER (150-157) is grown on the east end of the island of Sumatra near the Straits of Sunda. The pepper corns are less uniform in size than the varieties above described, also of a lighter color and surface shows considerable dirt. It is also sun-dried.

ACHEEN, SUMATRA or WEST COAST are names applied to the pepper obtained from Acheen, the western extremity of the island of Sumatra. "The designations 'East' and 'West' coast, which were formerly used, have been lost track of and the pepper is now designated according to its specific gravity as 'A,' 'B,' 'C,' or 'D' grade."*

"A" grade weighs at least 4 lbs. 13 oz. to the imperial gallon (481 grams per liter).
"B" grade weighs at least 4 lbs. 5 oz. to the imperial gallon (431 grams per liter).
"C" grade weighs at least 3 lbs. 13 oz. to the imperial gallon (381 grams per liter.)
"D" grade weighs at least 3 lbs. 5 oz. to the imperial gallon (330 grams per liter).

There probably has not been any of the "A" grade of Acheen black pepper in this country for several years for the reason that it is this grade of pepper that is preferred by the manufacturers of Penang white pepper and being used up this way does not reach our markets except as white pepper.

The samples of Acheen pepper (174-182) obtained by us in this investigation are of a much poorer quality than any of the other varieties. They contain many "shelly" and broken berries, pieces of stems, dirt, etc.

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* Personal communication from E. R. Durkee & Co., New York

White Pepper is the berries of the *Piper nigrum* L. from which the outer shell or pericarp has been removed to a greater or less extent. The manufacture of white pepper is a separate and distinct business of itself. It is not always done at the plantations, but may be done at a distance from them by manufacturers who buy the pepper in open market, merely selecting a lot which they deem suitable for the purpose. It is generally understood that berries that have been allowed to ripen before picking are used for making white pepper, as they are more easily decorticated, but not all white pepper is made from fully ripened berries.* The shells are removed by friction after soaking the berries in water. The white peppercorns are often bleached and otherwise treated to improve their appearance.

There are several varieties of white peppers on the markets corresponding in a general way with the black peppers. Thus we have Singapore, Penang, Tellichery, Siam, etc. All the samples of Penang White Pepper (198-204) analyzed during this investigation were coated with a brown colored preparation of carbonate of lime as was also a sample of Java White Pepper (207).

Decorticated White Pepper (185-189) is the term applied to a variety which for the most part has the seed coats entirely removed, thus forming smooth, hard kernels. There are various qualities of Decorticated White Pepper depending upon the extent to which the decorticating or pearling process has been carried. Thus we may have decorticated pepper from which all three of the seed coats are removed or only one or two of them. Other varieties of white pepper have only the first or dark shell part removed.

Coriander White Pepper (184) is made in imitation of coriander by cutting off from the end of each corn a piece of the outer hull so that the dark-colored inner portion shows.

Ground Pepper should be nothing but the peppercorns of either the black or white pepper reduced to a proper fineness by passing through a suitable spice mill and over sieves.

The Adulteration of Pepper.—As pepper usually reaches the consumer in the ground form, the addition of adulterants is not easily detected. Various materials have been used to adulterate ground pepper, those most commonly used being pepper shells, middlings and other by-products of wheat, corn and rice; ground olive pits; cocoanut shells, and almond shells, mustard husks, long pepper, cayenne. etc. These are usually sold by spice grinders under the names of "P. D. Pepper," "Pepper Adulterant" and "Pepper Mixture," and consists of such products as the grinder has at hand or can obtain at the lowest price, the mixer requiring only that the color shall be such as is suitable for his trade.

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* Personal communication from E. R. Durkee & Co., New York.

These adulterants (See Samples Nos. 215-223) are usually mixtures of some dark-colored material (probably roasted cocoanut or other shells) with some light-colored starchy matter. Cayenne is used to give a pungency to the mixture.

LONG PEPPER (208-210) is for the most part derived from wild plants of the genus *Chavica Miq.*, formerly included under the genus *Piper L.* It consists of long cylindrical spikes, covered with closely packed, small, round berries. It is picked when green, and as found on the market is composed of the small berries with the husks and all hardened together and to the woody stem. It always carries with it large amounts of dirt and other extraneous matter. It does not possess the fine flavor of true pepper, and its addition to the same is regarded as an adulteration.

PEPPER SHELLS (211-214) is the term applied to the shells, dirt, etc., obtained as a by-product in the manufacture of white pepper.

During this investigation we also received two samples (258-259), which are reported to be the inner coats of the peppercorn. Sample 258 is said to be "composed largely of the second skin of the pepper," and sample 259 to be "composed largely of the third skin of the pepper." We understand they are both obtained in the manufacture of decorticated white pepper. Sample 258 is of a light brown color and 259 is of a grayish color. The microscopical examination shows that they are mixtures of these inner coats as described with considerable of the starch portion of the pepper.

CHEMICAL COMPOSITION OF PEPPER.—Bulletin 13, Part 2 of the U. S. Dept. of Agriculture, Division of Chemistry, contains a valuable report on the nature, preparation, adulteration and methods of analysis of pepper and other spices. This work has been supplemented by that of Winton, Ogden, and Mitchell, as reported in Conn. Exp. Station, Reports of 1898 and 1899. These investigations, together with the provisional methods for analysis of spices adopted by the Offical Association of Agricultural Chemists, have, to a large extent, brought about uniform methods for the analysis of pepper among the chemists of this country, which will in turn give proper data for standards of purity for this much used spice.

Much complaint has been made by spice grinders in the past that the samples taken by the chemists for making analyses were too small and not properly obtained, so that frequently the results did not correctly represent the composition of the goods. In our investigation we have endeavored to secure representative samples of each variety and have been greatly assisted in this by the importers. Messrs. E. R. Durkee & Co. give the following description of the manner in which the samples secured from them were taken. "A number of bags of each kind of pepper were sampled and from the separate samples a bag was chosen which was an average of the sort under examination. From this bag was drawn a sample of about twelve pounds and then the rest of the contents of the bag were put in the hopper of the mill and ground entirely up, the tailings were not rejected, but the whole was ground and the entire weight accounted for, leaving only a small loss, due to dust and evaporation of moisture. A large bulk sample was then taken of the powdered pepper for analysis. The mill was perfectly cleaned after each grinding. All this was done under the personal supervision of a practical spice man who had been in the business over thirty years." One pound sample of the whole pepper was also taken from the twelve pound lots drawn from each bag and these were ground by myself in the Department laboratory. The results of the analyses of both the samples from each variety are included in the following tables of analyses:

TABLE XII.—*Analyses of whole black pepper.*

Laboratory number.	Kind.	Importer.	Weight of 100 corns in grams.	% Moisture.	Ash.			% Starch by diastase method.	Ether extract.		% Crude fiber.	Nitrogen.		Total N. less N. in non-volatile ether extract × 6¼.	Parts N. in 100 parts non-volatile ether extract.
					% Total.	% Insoluble in HCl.	% Soluble in water.		% Volatile.	% Non-volatile.		% Total.	In non-volatile ether extract.		
138	Mangalore	E. R. Durkee & Co., New York	9.40	8.53	4.03	0.09	2.28	36.95	1.86	6.81	10.05	1.88	0.28	10.06	3.80
139	"	Bennett, Simpson & Co., New York	9.72	9.12	4.74	0.05	2.73	34.62	1.87	7.96	10.42	2.00	0.28	10.75	4.06
	Average		9.56	8.82	4.38	0.07	2.50	35.78	1.86	7.38	10.23	1.94	0.28	10.40	3.93
140	Shot	Austin, Nichols & Co., New York	4.84	8.40	4.15	0.22	2.10	36.50	1.27	6.87	13.04	2.31	0.30	12.56	4.07
141	"	Bennett, Simpson & Co., New York	6.02	10.67	3.66	0.28	1.87	38.60	1.16	6.66	10.68	2.21	0.33	11.75	3.79
	Average		5.43	9.53	3.90	0.25	1.98	37.55	1.21	6.76	11.86	2.26	0.31	12.15	3.93
142	Singapore	E. B. Millar & Co., Chicago	4.51	9.77	4.38	0.31	2.49	39.43	1.94	7.50	11.92	2.38	0.29	13.08	3.91
143	"	J. G. Flint & Co., Milwaukee	4.47	8.62	4.13	0.25	2.45	33.75	1.80	7.48	12.68	2.41	0.31	13.12	4.14
144	"	Franklin MacVeagh & Co., Chicago	5.38	9.96	3.61	0.19	2.13	39.09	1.41	6.57	10.40	2.18	0.27	11.94	4.21
145	"	Austin, Nichols & Co., New York	4.50	8.90	3.90	0.14	2.12	38.70	1.47	6.98	11.91	2.35	0.28	12.92	4.02
146	"	Francis Legett & Co., New York	4.80	11.04	4.76	0.52	1.91	35.24	1.55	7.78	13.38	2.24	0.31	12.06	4.06
147	"	Bennett, Simpson & Co., New York	4.31	8.20	4.61	0.51	2.34	35.07	1.88	7.67	13.82	2.35	0.32	12.69	4.11
148	"	E. R. Durkee & Co., New York	3.90	9.55	5.19	0.41	2.52	35.81	1.71	7.85	11.96	2.35	0.34	12.56	4.22
149*	"	" " " " "	......	9.86	4.95	0.56	2.74	36.11	1.78	7.63	11.99	2.35	0.33	12.62	4.09
	Of 8 analyses	Maximum	5.38	11.10	4.95	0.56	2.74	39.43	1.94	7.85	13.82	2.41	0.34	13.12	4.22
		Minimum	3.90	8.20	3.61	0.14	1.91	33.75	1.41	6.57	10.40	2.18	0.27	11.94	3.91
		Average	4.55	9.49	4.44	0.36	2.34	36.65	1.69	7.43	12.24	2.32	0.30	12.62	4.09
150	Lampong	E. B. Millar & Co., Chicago	3.79	8.28	5.04	1.07	1.97	36.48	2.10	8.19	12.60	2.20	0.34	11.62	4.27
151	"	Durand & Kasper Co., Chicago	3.48	8.09	6.27	1.40	1.81	35.52	1.44	8.09	13.50	2.03	0.35	10.50	4.17
152	"	Franklin, MacVeagh & Co., Chicago	3.71	10.48	4.93	0.75	2.03	38.92	1.58	8.51	11.99	2.10	0.34	11.00	4.17
153	"	Austin, Nichols & Co., New York	3.32	8.99	5.47	0.57	2.57	39.15	1.59	6.81	10.40	2.00	0.32	10.50	4.24
154	"	Francis, Legett & Co., New York	3.41	11.96	5.21	0.88	1.86	35.86	1.49	8.07	13.16	2.11	0.35	11.00	4.12
155	"	Bennett, Simpson & Co., New York	3.36	9.17	5.01	0.74	1.71	39.51	1.83	7.38	10.25	2.00	0.35	10.11	4.27
156	"	E. R. Durkee & Co., New York	3.61	9.15	6.39	1.62	1.65	39.46	1.22	8.25	11.73	2.11	0.35	11.00	4.12
157*	"	" " " " "	......	9.18	6.45	1.80	1.76	39.27	1.22	7.97	11.94	1.97	0.34	10.19	4.08
	Of 8 analyses	Maximum	3.79	11.96	6.45	1.80	2.57	39.46	2.10	8.51	13.50	2.20	0.35	11.62	4.27
		Minimum	3.32	8.09	4.93	0.57	1.65	35.52	1.22	6.81	10.25	1.97	0.32	10.11	4.08
		Average	3.52	9.42	5.59	1.10	1.92	38.02	1.59	7.89	11.94	2.06	0.34	10.74	4.18

158	Tellicherry	The J. P. Dieter Co., Chicago	5.04	9.15	4.06	0.10	2.48	38.56	0.85	6.72	12.27	2.04	0.25	11.19	4.14
159	"	Francis, Legett & Co., New York	4.85	11.10	4.63	0.07	2.76	36.03	1.55	6.84	13.21	2.10	0.28	11.87	4.07
160	"	Bennett, Simpson & Co., New York	5.11	9.76	4.47	0.07	3.19	41.75	0.96	6.85	12.55	2.16	0.29	11.69	4.00
161	"	E. R. Durkee & Co., New York	4.42	8.42	4.69	0.08	2.94	38.70	1.11	6.91	12.64	2.21	0.28	12.06	4.09
162*	"	" " " " "	......	8.91	4.61	0.09	2.91	40.18	0.97	6.74	11.98	2.17	0.28	11.81	4.04
163	Malabar	Franklin, MacVeagh & Co., Chicago	4.23	10.53	4.40	0.20	2.65	36.84	1.51	7.71	12.78	2.04	0.34	10.83	4.00
	Of 6 analyses	Maximum	5.11	11.10	4.69	0.20	3.19	41.75	1.55	7.71	13.21	2.21	0.34	12.06	4.14
		Minimum	4.23	8.42	4.40	0.07	2.48	36.03	0.85	6.72	11.98	2.04	0.25	10.83	4.00
		Average	4.73	9.64	4.47	0.10	2.82	38.51	1.06	6.96	12.57	2.12	0.28	11.49	4.06
164	Allepey	E. B. Millar & Co., Chicago	5.41	8.99	4.80	0.30	3.32	36.10	1.12	7.48	12.65	2.07	0.25	11.38	3.94
165	"	The J. P. Dieter Co., Chicago	4.29	9.06	5.00	0.07	2.90	34.65	1.90	8.87	13.01	2.16	0.35	11.31	3.72
166	"	Francis Legett & Co., New York	4.43	8.46	4.78	0.10	2.82	34.76	1.51	8.09	12.63	2.03	0.35	10.50	3.84
167	"	E. R. Durkee & Co., New York	4.50	10.01	5.02	0.22	3.18	41.60	1.65	8.65	11.68	2.11	0.35	11.00	3.91
168*	"	" " " " "	......	9.60	4.74	0.18	3.18	40.84	1.43	8.66	11.36	2.04	0.35	10.56	3.98
	Of 5 analyses	Maximum	5.41	10.01	5.02	0.30	3.32	41.60	1.90	8.87	13.01	2.16	0.35	11.38	3.98
		Minimum	4.29	8.46	4.74	0.07	2.82	34.65	1.12	7.48	11.36	2.03	0.25	10.50	3.72
		Average	4.67	9.23	4.87	0.17	3.10	37.59	1.52	8.35	12.26	2.08	0.33	10.95	3.87
169	Trang	The J. P. Dieter Co., Chicago	3.82	8.09	3.83	0.33	2.33	38.25	1.60	6.97	12.04	1.98	0.27	10.88	4.10
170	"	Francis Legett & Co., New York	4.13	11.57	3.43	0.36	2.00	39.06	1.49	6.79	10.58	1.93	0.26	10.44	4.07
171	"	Bennett, Simpson & Co., New York	4.05	9.15	4.16	0.33	2.02	35.7	1.29	6.60	12.29	2.03	0.25	11.13	3.79
172	"	E. R. Durkee & Co., New York	3.87	9.87	4.11	0.35	1.97	40.02	1.28	6.66	13.11	1.99	0.27	10.75	3.96
173*	"	" " " " "	......	10.75	4.16	0.41	1.89	41.00	1.22	6.76	12.56	2.00	0.27	10.81	3.90
	Of 5 analyses	Maximum	4.13	11.57	4.16	0.41	2.33	41.00	1.60	6.97	13.11	2.03	0.27	11.13	4.10
		Minimum	3.82	8.09	3.43	0.33	1.97	35.72	1.22	6.60	10.58	1.93	0.25	10.38	3.79
		Average	3.97	9.88	3.94	0.35	2.04	38.61	1.37	6.63	12.11	1.97	0.26	10.70	3.94
174	Acheen	Austin, Nichols & Co., New York	2.79	8.89	5.80	1.22	2.40	32.18	1.73	9.18	15.42	2.07	0.40	10.44	4.13
175	"	Francis Legett & Co., New York	2.52	11.49	6.62	1.36	2.83	25.09	2.07	9.16	18.84	2.27	0.39	11.75	4.13
176	" "D"	E. R. Durkee & Co., New York	2.46	10.03	7.00	1.62	2.53	28.40	1.94	8.81	17.98	2.38	0.36	12.68	4.15
177*	" "D"	" " " " "	......	10.04	6.75	1.52	2.55	28.00	1.66	8.24	18.89	2.38	0.36	12.62	4.05
178	" "C"	" " " " "	2.82	9.65	8.00	2.59	2.60	33.38	2.05	8.08	16.63	2.11	0.36	10.94	4.18
179*	" "C"	" " " " "	......	9.62	8.04	2.40	2.78	32.88	1.80	7.99	17.00	2.14	0.34	11.25	3.94
180	"	Bennett, Simpson & Co., New York	3.69	9.49	6.49	0.96	2.97	33.72	1.53	10.44	15.04	2.07	0.45	10.18	4.21
181	West Coast	The J. P. Dieter Co., Chicago	3.20	8.73	5.86	0.83	2.98	28.00	1.71	9.49	16.97	2.02	0.42	10.00	4.08
182	Java	" " " " "	3.44	8.25	5.20	0.33	2.98	33.00	1.22	7.87	13.65	1.86	0.38	9.25	3.91
	Of 9 analyses	Maximum	3.69	11.49	8.04	2.59	2.98	33.72	2.07	10.44	18.89	2.38	0.45	12.63	4.21
		Minimum	2.52	8.25	5.20	0.31	2.40	25.09	1.22	7.87	13.65	1.86	0.34	9.25	3.91
		Average	2.99	9.58	6.64	1.42	2.73	30.74	1.75	8.80	15.60	2.15	0.38	11.00	4.06
		Average of all (45 analyses)	4.07	9.54	4.99	0.58	2.49	36.69	1.30	7.67	11.12	2.11	0.31	11.30	4.03

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* Taken from same lot as preceding sample and ground at E. R. Durkee & Co.'s spice mill.

TABLE XIII.—*Analyses of whole white pepper.*

Laboratory number.	Kind.	Importer.	Weight of 100 corns in grams.	% Moisture.	Ash.			% Starch by diastase method.	Ether extract.		% Crude fiber.	Nitrogen.		Total N. less N. in non-volatile ether extract × 6¼.	Parts N. in 100 parts non-volatile ether extract.
					% Total.	% Insoluble in HCl.	% Soluble in water.		% Volatile.	% Non-volatile.		% Total.	In non-volatile ether extract.		
183	"Fancy"	E. R. Durkee & Co., New York	6.35	7.97	0.88	0.05	0.35	49.05	1.65	5.88	3.59	1.93	0.29	10.25	4.29
184	Coriander	Bennett, Simpson & Co., New York	4.22	10.22	1.03	0.03	0.20	56.60	0.85	6.48	4.14	2.13	0.28	11.56	4.15
185	Decorticated	Franklin, MacVeagh & Co., Chicago	2 61	10.81	1.02	0.05	0.12	61.31	0.86	6.87	0.10	1.90	0.32	9.87	4.53
186	"	Austin, Nichols & Co., New York	3.11	11.25	2.24	0.10	1.05	57.38	1.15	6 52	2.07	1.88	0 32	9.75	4.44
187	Extra Fancy Decorticated	The J. P. Dieter Co., Chicago	2.56	9.46	1.00	0 07	0.16	59.94	0.93	6.92	0.21	1.88	0.31	9.69	4.51
188	No. 1 Decorticated	" " " " "	3.47	8.14	1.00	0 04	0.58	59 60	1.50	6.79	1.43	1.90	0.32	9.87	4.23
189	Decorticated	Bennett, Simpson & Co., New York	2.84	10.74	1.30	0.01	0.48	63.55	1.10	5.96	0.31	1.89	0.29	10 62	4.33
257	Fancy Decorticated	E. R. Durkee & Co., New York	.....	13.34	1.37	0.15	0.18	62.78	0.84	6.88	0.45	1.95	0.29	10.37	4.35
	Of 6 analyses	Maximum	3.47	11.25	2.24	0.10	1.05	63.55	1.50	6.92	2.07	1.90	0.32	10.62	4.53
		Minimum	2.56	8.14	1.00	0.01	0.12	57.38	0.84	5.96	0.10	1.88	0.29	9.75	4.23
		Average	2.92	10.62	1.32	0.07	0.43	60.76	1.06	6.65	0.76	1.91	0.31	10.03	4.40
190	Tellicherry	Bennett, Simpson & Co, New York	5.40	10.49	0.86	0.07	0.12	57.09	1.15	6.09	3.39	1.85	0.29	9.75	4.31
191	Singapore	J. G. Flint & Co., Milwaukee	4.68	8.15	1.40	0.20	0.37	59.23	1 29	6.85	3.98	2.14	0.33	11.31	4.34
192	"	Durand & Kasper Co., Chicago	5.20	8.74	0.94	0.08	0.19	58.56	1.28	7.11	3.79	2.00	0.29	10.69	4.31
193	"	Reid, Murdoch & Co., Chicago	4.79	10.46	1.13	0.14	0.22	54.45	1.53	6.72	4.36	2.10	0.34	11.00	4.23
194	"	Austin, Nichols & Co., New York	4.50	10.67	1.61	0.14	0.28	56.81	0.97	6.89	6.10	2.01	0.25	11.00	4.32
195	"	Bennett, Simpson & Co., New York	5.01	10.34	1.04	0.06	0.22	55.35	1.66	5.68	3.39	1.99	0.28	10.69	4 22
196	"	E. R. Durkee & Co., New York	4.89	11.38	1.06	0.15	0.20	57.14	1.45	6.59	4.20	1.94	0.31	10.19	4.22
197*	"	" " " " "	......	11.00	1.07	0.15	0.19	59.34	1.32	7.26	4.62	1.90	0.34	9.75	4.32
	Of 7 analyses	Maximum	5.20	11.38	1.61	0.20	0.57	59 34	1.66	7.26	6.10	2.14	0.34	11.31	4.34
		Minimum	4.68	8.15	0.94	0.08	0.19	54.45	0.97	5.68	3.39	1.94	0 25	9.75	4.22
		Average	4.84	10.10	1.18	0.13	0.24	57.27	1.35	6.73	4.35	2.01	0.30	10.66	4.28

198	Penang	E. B. Millar & Co., Chicago	4.79	8.04	3.67	0.09	1.16	50.31	1.06	6.50	7.65	2.04	0.24	11.25	4.02
199	"	Franklin, MacVeagh & Co., Chicago	5.62	11.11	3.51	0.05	0.50	52.86	0.88	5.72	4.44	2.08	0.25	11.08	4.87
200	"	Austin, Nichols & Co., New York	5.19	12.18	3.74	0.20	0.34	52.98	1.64	6.21	5.17	2.02	0.25	11.06	4.17
201	"	Bennett, Simpson & Co., New York	5.11	12.01	3.56	0.27	0.45	48.88	1.10	6.22	4.01	1.88	0.25	10.00	4.21
202	"	Francis Leggett & Co., New York	5.58	12.23	2.15	0.05	0.55	49.67	1.04	5.88	4.66	1.90	0.28	10.06	4.37
203	"	E. R. Durkee & Co., New York	5.47	12.01	4.28	0.26	0.40	52.17	1.29	5.65	5.07	1.96	0.24	10.81	4.26
204*	"	" " " " "	......	11.61	3.85	0.28	0.31	50.80	1.31	5.79	5.17	1.99	0.22	10.81	4.34
	Of 7 analyses	Maximum	5.62	12.23	4.28	0.28	1.16	52.98	1.64	6.50	7.65	2.04	0.28	11.25	4.37
		Minimum	4.79	11.11	2.15	0.05	0.31	48.88	1.06	5.65	4.01	1.88	0.22	10.00	4.02
		Average	5.29	11.31	3.53	0.17	0.53	51.02	1.19	5.94	5.17	1.97	0.25	10.72	4.25
205	Siam	E. R. Durkee & Co., New York	5.15	8.66	1.77	0.15	0.53	55.01	1.24	5.71	3.91	2.04	0.25	11.19	4.20
206	"	D. & L. Slade Co., Boston	5.48	10.27	1.60	0.22	0.36	55.63	1.37	5.77	3.62	2.02	0.30	10.75	4.48
		Average	5.31	9.46	1.68	0.18	0.45	55.32	1.30	5.74	3.76	2.03	0.27	10.97	4.34
207	Java	The J. P. Dieter Co., Chicago	3.34	9.32	3.05	0.86	0.38	52.25	0.78	8.22	8.12	1.93	0.38	9.69	4.47
		Average of all (25 analyses)	4.71	9.87	1.69	0.19	0.34	54.87	1.17	6.46	4.17	1.97	0.30	10.44	4.31

* Taken from same lot as preceding sample and ground at E. R. Durkee & Co.'s spice mill.

TABLE XIV.—*Analyses of pepper adulterants.*

Laboratory number.	Kind.	Moisture. %	Ash. Total. %	Ash. Insoluble in 10% HCl. %	Ash. Soluble in water. %	Starch by diastase method. %	Ether extract. Volatile. %	Ether extract. Non-volatile. %	Crude fiber. %	Nitrogen. Total. %	Nitrogen. In non-volatile ether extract.	Total N. less N in non-volatile ether extract × 6¼.	Parts N. in 100 parts non-volatile extract.	Microscopical examination.
208	Ground long pepper..........	8.43	14.39	5.92	1.72	28.43	1.01	7.53	7.53	2.13	0.20	12.06	3.27	
209	Long pepper..................	9.39	10.76	3.09	2.86	34.76	1.01	5.73	7.19	2.07	0.18	11.81	3.12	
210	" "	10.13	6.12	0.45	4.39	45.87	0.79	5.71	10.01	2.04	0.22	11.87	3.56	
211	Pepper shells................	7.00	21.90	18.75	1.76	10.27	1.07	2.53	21.06	1.75	0.05	10.62	2.37	Consists of shells and dirt.
212	" "	8.88	7.82	0.79	4.66	11.70	1.11	4.67	23.81	1.72	0.12	10.00	2.25	" " " only.
213	" "	9.29	20.87	12.51	1.53	9.31	1.02	3.50	24.32	1.75	0.05	10.62	2.03	" " " and dirt.
214	" "	11.01	28.81	22.90	1.71	9.28	0.89	1.51	28.22	1.82	0.02	11.25	1.90	" " " " "
258	"A" pepper shells...........	10.56	4.78	0.24	2.21	28.74	1.29	3.89	18.55	2.25	0.33	12.12	3.86	" " inner shell and starch portion.
259	"B" " "	10.13	3.29	0.16	1.48	39.77	1.24	3.11	8.08	2.35	0.34	12.56	3.90	" " " " " " "
215	"Black pepper adulterant"..	8.52	3.68	0.27	0.61	38.08	1.47	3.62	17.85	2.46	0.01	15.81	0.25	" " rice, wheat and charr'd matter.
216	" " mixture"	8.93	1.36	0.12	1.56	45.90	1.16	2.20	13.35	1.99	0.00	12.40	......	" " corn meal mostly. Some charred matter.
217	"P. D. pepper"...............	9.01	7.46	0.09	0.77	26.69	0.87	3.72	14.54	1.60	0.01	9.83	0.26	Consists of corn meal and charred matter.
218	" "	8.47	13.36	0.28	5.16	19.21	0.58	0.73	28.32	1.01	0.00	6.28	......	" " some corn meal and large amount charred matter.
219	"Pepper adulterant"........	7.79	1.30	0.05	0.52	26.45	0.29	0.23	26.52	0.53	0.00	3.28	......	Consists of corn meal, charred matter and ground olive pits.
220	" mixture"...........	11.35	6.74	0.19	3.40	38.50	0.72	1.25	10.81	1.85	0.00	11.53	......	Consists of wheat product (bread crumbs) and charred matter.
221	"White pepper adulterant"	10.83	1.09	0.00	0.44	71.21	0.20	0.28	0.41	1.48	0.00	9.25	......	Consists entirely of white corn meal.
222	" " mixture"...	11.07	18.96	0.32	4.86	45.62	0.35	0.37	0.68	1.88	0.00	11.75	......	Some product of wheat, probably bread crumbs.
223	" " adulterant"	11.75	3.57	0.15	1.24	35.61	1.96	4.36	1.95	4.06	0.00	25.37	......	Mostly rice, the whole grain rolled flat.
224	Ground cocoanut shells.....	8.65	0.55	0.02	0.41	1.43	0.05	0.17	58.53	0.14	0.00	0.87	......	
225	" almond shells........	8.54	1.17	0.63	0.31	1.95	0.70	0.52	54.62	0.14	0.00	0.87	......	
226	" olive pits............	9.50	0.88	0.44	0.24	1.73	0.06	0.24	57.46	0.17	0.00	1.06	......	

EXAMINATION OF SAMPLES OF PEPPER FROM THE MICHIGAN MARKET.

The Food Laws of this State (Act No. 180, Public Acts, 1901) require that all black pepper manufactured for sale or offered or exposed for sale within this State shall contain not more than six and one-half per cent ash or mineral matter; not less than twenty-five per cent starch as determined by the diastase method; not less than six-tenths of one per cent nor more than one and three-fourths per cent of volatile ether extract; not more than ten per cent or less than six and one-half per cent of non-volatile ether extract; nor more than sixteen per cent of crude fiber. It further prohibits the manufacture or sale of pepper containing any foreign substance.

The Food Laws of the State does not establish a standard for white pepper as do they for black pepper. Of course under the provisions of the general law white pepper must contain no foreign matter. From the result of the analysis in Table XIII it will be seen that pure white pepper should contain not more than four and one-half (4½) per cent ash, or mineral matter, not less than forty (40) per cent of starch by diastase method, not less than five and one-half (5½) per cent non-volatile ether extract, nor more than seven and one-half (7½) per cent crude fiber. One hundred parts of the non-volatile ether extract should contain not less than four (4) parts of nitrogen.

At my request during the past few months samples of ground pepper were bought by the Department inspectors from stocks sold mostly in bulk by grocerymen and spice houses of the State. Thirty samples of these goods were sent to the laboratory for analysis. In obtaining the samples the inspectors made no examination of the goods themselves nor gave any preference as to price or quality, but purchased them indiscriminately in their visits to the cities in different portions of the State. The results of the examinations of these samples appear in the following tables. In the eighteen samples of black pepper the only adulteration found was the excess of pepper shells with the accompanying sand and dirt in three samples. Of twelve samples of white pepper one sample contained a large quantity of rice and two others contained some sort of ground shell matter foreign to pepper. The analyses in full are found in Table XVI.

Nineteen samples of pepper were received at the laboratory during the past year, through the regular course of inspection, twelve of which were found to be adulterated and seven to be pure. A detailed report of the samples found adulterated is found in Table XVII.

TABLE XVI.—*Analyses of commercial samples, black pepper.*

Laboratory number	Kind.	Moisture.	Ash.			Starch by diastase method.	Ether extract.		Crude fiber.	Nitrogen.		Total N. less N. in non-volatile ether extract × 6¼.	Parts N. in 100 parts non-volatile ether extract.	Microscopical examination.
		%	% Total.	% Insoluble in HCl.	% Soluble in water.	%	% Volatile.	% Non-volatile.	%	% Total.	In non-volatile ether extract.			
227	Black pepper	9.96	6.22	1.19	2.31	27.41	1.08	7.22	17.80	2.27	0.28	12.44	3.81	Rather dark sample. No foreign matter
228	" "	9.96	9.90	2.54	1.60	28.88	0.94	6.88	15.39	2.10	0.27	11.44	3.73	Unevenly ground. Large amount of coarse shells.
229	" "	10.11	5.18	0.79	2.23	33.43	1.04	6.63	14.12	2.24	0.27	12.31	3.77	No foreign matter. Good quality.
230	"Strictly pure gr d pepper"	9.74	4.80	0.34	2.85	35.56	0.92	7.14	12.83	2.21	0.29	12 00	4 05	" " " High grade goods.
231	Black pepper	9.93	6.19	0.71	3.31	30.98	1.39	6.79	15.90	2.24	0.27	13.31	3.66	" " " Low grade goods.
232	" "	10.62	5.97	1.12	2.45	35.39	0.99	8.07	10.18	1.98	0.35	10.20	4.04	" " " Good grade.
233	" "	10.92	8.07	1.75	2.54	29.98	1.02	6.72	14.49	2.21	0.28	12.06	4.01	Dark sample. Considerable shell portion.
234	" "	10.42	6.23	1.55	2.43	32.08	1.15	6.64	13.39	2.41	0.27	13 87	3.91	No foreign matter. Good grade.
235	" "	11.85	6.40	0.42	2.10	35.00	1.20	8.67	12.06	2.02	0.37	10.31	4.08	" " " Very finely ground.
236	" "	10.48	4.40	0.26	2.39	37.30	1.32	7.58	12.80	2.27	0.33	12.19	4.00	" " " High grade goods.
237	" "	10.47	9.00	2.04	3.10	18.84	1.34	8.97	20.90	2.38	0.34	12.75	3.65	Very little starch portion present. About all shells.
238	" "	10.82	5.93	1.02	2.44	28.86	1.02	7.19	16.51	2.30	0 30	12.50	4.12	No foreign matter. Fair grade.
239	"Choice pepper"	10.47	5.65	0.80	2.74	32.11	1.24	7.97	15.11	2.16	0.34	11.38	4.37	" " " " "
240	Black pepper	10.28	6 38	1.23	2.16	33.87	1.14	8.61	12.44	2.18	0.35	11.54	4.18	" " " Good grade.
241	" "	10.06	3.47	0.21	1.95	42.71	1.11	7.30	9.34	2.33	0.32	12.50	4.16	" " " Very little hull present.
242	" "	11.21	4.53	0.54	2.29	37.12	1.14	6.54	11.68	2.24	9.27	12.31	4.00	No foreign matter. Good quality.
243	Pepper	8 74	5.34	0.78	2.48	28.33	1.10	9.55	15.38	2.43	0.36	12.94	4.04	" " " Fair quality.
244	"Puritan pepper"	8 59	5.42	0.69	2.56	26.81	1.25	7.50	15.64	2.30	0.27	13.06	3.55	" " " " "
	Of 15 samples found pure. Maximum	11.85	6 40	1.55	3.31	42.71	1.39	9.55	17.80	2.43	0.36	13.37	4.37	
	Minimum	8.59	3.47	0.21	1.95	26.81	0.92	6.54	9.34	1.98	0.27	10.20	3.55	
	Average	10.22	5.47	0.78	2.44	33.06	1.14	7.56	13.67	2.22	0.31	12.02	3.98	

TABLE XVI.—*Analyses of commercial samples, white pepper.*

Laboratory number.	Kind.	% Moisture.	Ash. % Total.	Ash. % Insoluble in HCl.	Ash. % Soluble in water.	% Starch by diastase method.	Ether extract. % Volatile.	Ether extract. % Non-volatile.	% Crude fiber.	Nitrogen. % Total.	Nitrogen. In non-volatile ether extract.	Total N. less N. in non-volatile ether extract × 6¼.	Parts N. in 100 parts non-volatile ether extract.	Microscopical examination.
245	White pepper	12.07	1.07	0.07	0.15	53.86	0.75	7.33	3.74	1.96	0.33	10.19	4.34	No foreign matter present.
246	" "	12.06	4.10	1.28	0.46	50.19	0.68	6.40	4.29	1.99	0.34	10.94	4.23	" " " "
247	" "	10.11	1.48	0.13	0.52	55.57	0.72	8.10	3.06	2.07	0.35	10.75	4.33	" " " "
248	" "	9.38	3.67	0.08	2.16	42.34	0.65	7.58	9.81	2.16	0.31	11.56	4.24	Considerable of the shell part present.
249	" "	9.76	1.98	0.15	0.67	49.91	0.67	7.35	5.72	2.04	0.32	10.75	4.30	No foreign matter present.
250	" "	9.05	4.43	0.37	1.48	36.66	1.11	6.97	12.43	2.02	0.28	11.00	4.12	Contains shell like matter forei'n to pepper.
251	" "	10.14	4.54	0.20	1.99	35.38	1.35	6.71	12.06	2.02	0.26	11.00	3.75	" " " " " " "
252	" "	9.64	3.94	0.29	0.92	55.37	1.31	6.83	6.83	1.93	0.30	10.19	4.14	No foreign matter present.
253	" "	11.55	2.51	0.51	0.53	49.51	1.04	6.20	3.72	1.90	0.30	10.00	4.38	" " " "
254	" "	9.12	1.91	0.23	0.78	50.38	1.01	7.51	4.59	1.99	0.31	10.50	3.97	" " " "
255	" "	10.64	1.37	0.07	0.19	55.70	1.01	5.96	3.38	1.99	0.27	10.75	4.35	" " " "
256	" "	9.83	2.62	0.19	0.23	60.04	0.67	4.20	1.67	2.02	0.29	10.81	6.47	Large amount of rice present.
	Of 9 samples found pure. Maximum	12.07	4.10	1.28	2.16	55.70	1.31	8.10	9.81	2.16	0.35	11.56	4.38	
	Minimum	9.05	1.07	0.07	0.15	42.34	0.65	5.96	3.06	1.93	0.24	10.00	3.97	
	Average	10.37	2.43	0.31	0.71	51.31	0.87	7.02	5.01	2.00	0.30	10.62	4.25	

TABLE XVII.—*Pepper*

Laboratory number.	Seal number.	Label.	Manufacturer.
5036	K-334	Black Pepper	Sultana Spice Mills, New York
5046	K-333	" "	Not given
5177	K-365	" "	Ed. W. Gillies, New York, N. Y.
5304	K-391	" "	Steele-Wedeles Co., Chicago, Ill.
5318	L-287	"Strictly Pure White Pepper"	Loverin & Browne, Chicago, Ill.
5319	L-288	" " Black "	" " " " "
5362	K-410	Black Pepper	Schorndofer & Eberhard (Jobbers) Cleveland, O.
5401	L-313	" " (Capitol Brand)	Northrop, Robertson & Carrier, Lansing, Mich.
5436	R-237	" " (AAA Brand)	Not given
5480	L-333	"Strictly Pure Black Pepper"	Loverin & Browne, Chicago, Ill.
5506	L-343	Black Pepper	Franklin, McVeagh & Co., Chicago, Ill.
29a	....	" "	Not given

MUSTARD (Flour).

Pure commercial mustard flour consists of the finely ground seeds of the black mustard (*Brassica nigra*) or white mustard (*Brassica alba*) or a mixture of both with the hulls removed and generally a portion of the fixed oil extracted. According to standard proposed by Association of Official Agricultural Chemists, standard ground mustard shall con *found adulterated.*

Retailer.	Ash.		Starch (by diastate method.)	Ether extract.		Crude fiber.	Microscopical examination.
	Total.	Insoluble in 10% HCl (sand).		Volatile.	Non-volatile.		
	%	%	%	%	%	%	
Great Atlantic and Pacific Tea Co., Grand Rapids.....	9.56	4.14	24.03	1.21	4.06	18.88	Wheat, rice and forei'n hulls pres't.
Louis Hoelzley, Grand Rapids	6.50	0.89	19.16	1.39	8.46	21.76	Excess of pepper shells present.
E. B. Bailey, Allegan	7.88	1.56	21.75	0.88	5.60	20.09	Does not comply with standard for black pepper.
G. H. Haines, Muskegon......	9.15	1.08	27.45	0.68	6.17	17.20	Does not comply with standard for black pepper.
J. E. Cairns, Elk Rapids......	2.19	......	56.16	0.50	3.22	2.47	Contains corn meal and rice.
" " " "	9.18	1.43	25.07	0.95	7.38	17.19	Does not comply with standard for black pepper.
John Schmitt, Detroit.......	16.16	6.15	20.90	1.95	6.03	17.11	Wheat present. Mostly pepper shells and dirt.
T. C. Holbrook, Clare........	7.18	2.59	31.69	0.66	7.44	17.49	Does not comply with standard for black pepper.
Hopkins & Mills, Durand......	6.51	0.97	23.74	1.29	8.65	19.83	Does not comply with standard for black pepper.
Roofstra & Elzenga, Atwood	4.21	......	25.53	1.45	6.11	18.50	Contains wheat, rice, cayenne and forcign hulls.
W. J. Clark, Harbor Springs.	8.85	1.84	13.50	0.43	4.73	23.42	Mostly shell portion. Does not comply with standard.
L. Hoekstra, Kalamazoo.....	7.51	2.25	......	......	......	......	Contains an excess of sand.

tain not more than two and five-tenths (2.5) per cent of starch by the diastase method and not more than eight (8) per cent of total ash.

Formerly mustard was largely adulterated with starchy materials, as (wheat flour, corn starch, etc.), sulphate of lime, and coloring matter, usually turmeric, though sometimes Martius yellow was used.

During the past year eight samples of ground mustard were received at the laboratory for examination, six of which were found to be adulterated and two to be pure. A detailed report of the samples found adulterated is found in Table XVIII.

TABLE XVIII.—*Mustard found adulterated.*

Laboratory number.	Seal number.	Manufacturer.	Retailer.	Ash.	Starch (by diastase method.)	Foreign coloring matter.	Microscopical examination.
				%	%		
5038	K-326	Not given....	Atlantic and Pacific Tea Co., Grand Rapids..........	3.91	39.75	Turmeric	Wheat and turmeric present.
5170	R-179	" "	" " " " " Saginaw, E. S.........	5.00	20.38	"	" " " "
5229	R-190	" "	" " " " " Bay City...............	3.88	30.10	"	" " " "
5299	K-388	Edwin J. Gillies, New York.	Wm. T. Baker, Grand Haven..........................	6.38	....	"	Colored with turmeric.
5335	R-210	Not given....................	S. Moffat, Flint...	3.40	41.25	"	Wheat and turmeric present.
5476	L-325	" "	F. E. Sissons, Central Lake..............................	5.74	....	"	Colored with turmeric.

MUSTARD (Prepared).

Ground mustard mixed with vinegar, spices, etc., to form a dressing for meats is a commercial product much used. The sale of pure ground mustard mixed with vinegar and spices is permitted by the food laws of the State provided each and every package is distinctly and durably labeled "Prepared Mustard," and bear the name and address of the manufacturer. Printed matter descriptive of the goods is permitted below the words "Prepared Mustard."

Four samples of prepared mustard were received for examination during the past year, two of which were found not to be labeled in compliance with the above interpretation. The samples were No. R-227, sold by R. H. Bailey, Saginaw, and manufactured by Flaccus Bros., Wheeling, W. Va., and No. U-44, sold by A. Kangas, Marquette.

ALLSPICE.

Allspice or Pimento, is the dried immature berries of a small tree (*Pimenta officinalis* Lindley) grown most extensively in Jamacia though native to and grown also in West Indies, Mexico and South America. Allspice has a fragrant odor thought to resemble a mixture of nutmeg, cinnamon and cloves, hence its name, allspice. Allspice should not contain more than six (6) per cent ash nor more than twenty-five (25) per cent crude fiber.

Only two samples of ground allspice were received for examination during the past year, both of which were found to be pure.

CAYENNE.

Cayenne or Cayenne Pepper consists of the dried ripe fruit of several of the small fruited species of the *Capsicum*. Pure cayenne pepper should contain not more than six and one-half (6½) per cent ash nor more than twenty-eight (28) per cent crude fiber nor less than fifteen (15) per cent non-volatile ether extract.

Only one sample of cayenne pepper was received for examination during the past year and this was found to be pure.

CINNAMON.

True cinnamon is the dried bark of the branches of the *Cinnamomum zeylanicum*, a small tree grown chiefly in Ceylon. It may or may not have the outer layers of the bark removed. Cassia is the dried bark of several of the other species of the *Cinnamomum*, and it may or may not have the outer layers of the bark removed.

Cassia buds are the dried immature fruit of one of the species *Cinnamomum*.

Commercial ground cinnamon or cassia is the ground product of either cinnamon, cassia, cassia buds or a mixture of them.

The variation in quality and value of the different cassias is very great, making it difficult to establish any standard for the product. No commercial cinnamon should contain more than eight (8) per cent ash and two (2) per cent of sand.

Two samples of ground cinnamon were received at the laboratory for examination during the past year both of which were found to be pure.

CLOVES.

Cloves are the dried flower buds of a small tree (*Caryophyllus aromaticus* L.) grown in the East Indies and tropical South America. They are found upon the market in both the whole and ground condition. According to the standard proposed by the Association of Official Agricultural Chemists, pure cloves should contain not less than ten (10) per cent of volatile ether extract; not less than twelve (12) per cent of quercitannic acid; not more than eight (8) per cent of total ash; and not more than ten (10) per cent of crude fiber.

Seven samples of ground cloves were received for examination during the past year, all of which were found upon a microscopical examination to contain no foreign matter and to compare favorably with the above standard in chemical composition.

GINGER.

Ginger is the dried underground stem of the *Zingiber officinale,* a herbaceous plant grown extensively in Jamaica, and all portions of the East Indies, Africa, and to some extent in the West Indies. It may be only washed and dried or the epidermis removed and then dried. Ginger is sometimes coated with carbonate of lime when it is known as limed or bleached ginger. Ginger is sold both in the whole and the ground condition.

Pure ginger should contain not more than eight (8) per cent ash and when limed not more than ten (10) per cent ash.

During the past year but one sample of ground ginger was received for analysis which proved to be adulterated with corn meal. This was sample No. L-335, sold by Roofstra & Elzenga, Atwood, and manufactured by Loverin & Browne, Chicago, Ill.

NUTMEG.

Nutmeg is the dried seed of a small tree (*Myristica fragrans*) grown principally in the East Indies. They are generally sold whole though ground nutmeg is sometimes found on the market. Pure nutmeg should contain not more than five (5) per cent ash or less than twenty-five (25) per cent non-volatile ether extract, nor more than ten (10) per cent crude fiber.

Three samples were received for examination during the past year two of which were found to be pure and one not to comply with the above standard.

METHODS OF EXAMINATION OF SPICES.

Preparation of Samples.—All samples are ground in spice mill so as to pass a sieve with round holes one millimeter in diameter.

Water.—Dry 2 grams to constant at 110° C. From the total loss in weight subtract the amount of volatile ether extract determined as described below.

Ash.—Two grams of the sample are incinerated at low redness in a muffle furnace.

Ash Insoluble in Hydrochloric Acid (Sand).—The ash prepared as above is boiled for 5 minutes with 25 c.c. of 10 per cent hydrochloric acid (Specific Gravity 1.050), the insoluble portion collected on ashless paper, washed with hot water, dried, ignited and weighed.

Ash Soluble in Water.—Two grams of the material is incinerated as for total ash, boiled for 15 minutes with 50 c.c. of distilled water, the insoluble portion collected on an ashless paper, washed with hot water, dried, ignited and weighed. The percentage of insoluble ash thus determined substracted from the percentage of total ash gives the percentage soluble in water.

Starch by Diastase Method.—Four grams of the material that has been ground to a fine powder in a mortar are weighed out in a 200 c.c. Erlenmeyer flask, about 20 c.c. of ether added and allowed to stand over night. After standing the ether is decanted through a S. & S. No. 589 Blue Ribbon filter and the sample washed with two successive portions of 10 c.c. of ether and then with 150 c.c. of 10 per cent (by volume) alcohol. The wet residue on the filter paper is rinsed back into the flask with 100 c.c. of warm water, boiled for 30 minutes by heating on an asbestos plate, occasionally rotating the flask during the boiling to prevent sticking to the bottom and burning. The water lost by evaporation is replaced and the flask immersed in a water bath kept at a temperature of 55 to 60° C. When the liquid is cooled to the temperature of the bath 10 c.c. of freshly prepared malt extract* are added and the mixture digested for one hour with occasional stirring. It is then boiled a second time for 15 minutes, cooled to 60° and digested as before with another portion of 10 c.c. of the malt extract. It is then heated to boiling again, cooled, made to 250 c.c. in graduated flask, thoroughly mixed and filtered through a dry paper, 200 c.c. of the filtrate is removed to a 300 c.c. Erlenmeyer flask, 20 c.c. of 25 per cent hydrochloric acid (Specific Gravity 1.125) added and the whole heated in a boiling water bath 3 hours. The solution is partially cooled, nearly but not quite neutralized with sodium hydroxide solution, and made to 500 c.c. in graduated flask. Reducing matter is determined by Allihn's method as follows:

Thirty c.c. of a solution containing 173 grams of Rochelle salt and 125 grams of caustic potash in 500 c.c. of water, and 30 c.c. of a solution of 34.639 grams of pure crystallized copper sulphate in 500 c.c. of water are mixed in a beaker with 60 c.c. of water and the whole heated to boiling. To the boiling liquid, without delay, is added 25 c.c. of the filtered solution to be examined, and the boiling continued 2 minutes. The reduced copper suboxide is collected on a weighed Gooch crucible washed thoroughly with hot water, then with 10 c.c. of alcohol and finally with 10 c.c. of ether. Dry in the oven at 100° C. for 30 minutes, cool in dessicator for 30 minutes and weigh. The weight of cuprous oxide multiplied by 0.888 gives the weight of metallic copper. A correction must be made for the amount of dextrose in malt extract if any. To obtain weight of starch multiply the weight of dextrose by 0.90.

For preparation of asbestos and Gooch crucibles see determination of starch under Methods of Examination of Chocolate and Cocoas.

Volatile and Non-Volatile Ether Extract.—Two grams of the ground material are extracted for 20 hours in a Soxhlet extraction apparatus with absolute ether. The ethereal solution is transferred to a weighed evaporating dish and the ether allowed to evaporate at room temperature. After standing for 18 hours over sulphuric acid the total ether extract is weighed, placed in the drying oven and gradually heated to 100° C. at which temperature it is kept for 6 hours, then raised to 110° C. and heated at this temperature until weight becomes constant. The loss is the volatile oil and the residue the non-volatile ether extract.

Crude Fiber.—The residue from the ether extract is placed in a 600 c.c. beaker, 200 c.c. of boiling 1.25 per cent sulphuric acid added, the beaker covered with a watch glass and the boiling continued for 30 minutes. It is filtered through linen without delay, washed with hot water until the washings are no longer acid and then rinsed back into beaker with 200 c.c. of boiling 1.25 per cent sodium hydroxide solution. The boiling is continued as before for 30 minutes, the fiber collected on a weighed ashless paper, thoroughly washed with hot water, and dried to constant weight at 100° C. From the total amount of residue is deducted the amount of ash as determined by incineration.

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* Prepared by digesting at not above 50° C. for two or three hours 100 grams of finely ground malt with 1,000 c. c of water and filtering, or making a solution of 5 grams Diastase-Stearns in 1,000 c.c. water. The latter gives no reduction on Fehling solution.

Total Nitrogen.—For all spices except black and white pepper determine nitrogen by Kjeldahl method.

Total Nitrogen, (Black and White Pepper).—The total nitrogen is determined by the Gunning-Arnold method.* One gram of the material is mixed in a Jena flask with one gram of cupric sulphate, one gram of red oxide of mercury, 15 to 18 grams of potassium sulphate and 25 c.c. of sulphuric acid. The flask is heated gently at first until frothing ceases, then brought to a brisk boil and the boiling continued for 4 hours. When nearly cool the contents are transferred to the distilling flask with about 300 c.c. of water and 50 c.c. of potassium sulphid solution (40 grams to 1000 c.c.). Sodium hydroxid solution is added to alkaline reaction and the ammonia distilled into standard acid and titrated with standard alkali in usual manner.

Nitrogen in Non-Volatile Ether Extract, (Black and White Pepper).—Method of Winton, Ogden and Mitchell.† Ten grams of the material are extracted for 24 hours in Soxhlet extraction apparatus with absolute ether as for ether extract. The ether solution is transferred to a weighed Jena flask and the ether distilled off. The flask is transferred to the drying oven and heated first at 100° C. and then at 110° C. to constant weight. The nitrogen is determined in the weighed extract by the Gunning-Arnold method as above described. It is necessary to continue the digestion at a brisk boil for at least 6 hours.

Microscopical Examination.—A thorough microscopical examination of all samples is made to detect the addition of any foreign vegetable matter. The use of sieves of different mesh to separate the sample into several grades of fineness; also the jarring of the sample on a sheet of paper materially assists in the separation of the component parts of the sample. The use of a small dissecting lens greatly facilitates the examination by enabling the experienced observer to at once pick out the foreign and suspicious particles for further examination with the compound miscroscope.

COLD WATER EXTRACT (Ginger).

Four grams of the ginger is placed in a 200 c.c. flask, the volume made to 200 c.c. with water and shaken at half hour intervals for 8 hours and then let stand for 16 hours without shaking. It is then filtered and 50 c.c. evaporated to dryness in a weighed platinum dish and dried to constant weight at 100° C.

COLORING MATTER (Mustard).

Turmeric.—Add a few drops of ammonia to some of the mustard on a white porcelain dish. A reddish-brown color develops if turmeric be present. Pure uncolored mustard turns a characteristic greenish-yellow on addition of ammonia.

Extract a portion of the sample with alcohol. Dip a piece of filter paper into the alcoholic extract and dry. Moisten paper in a weak solution of boric acid to which a few drops of hydrochloric acid have been added. Dry on watch glass over water bath. Cherry red color will develop on drying if turmeric be present.

Martius Yellow.—Extract a portion of sample with 95 per cent alcohol. Evaporate solution to dryness with piece of wool. If Martius Yellow be present the wool is dyed a bright yellow. It is decolorized by both hydrochloric and sulphuric acid. If some of the dyed cloth be wrapped in white paper and heated to 120° C. in air bath, part of the yellow color is transferred to the paper.

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* Ztschr. Anal. Chem. 31. 525, also Conn. Agr'l Exp. Sta. Rpt., 1896.
† Conn. Agr'l Exp. Sta. Rpt., 1898.

SYRUP.

Six samples of syrup were received for examination durnig the past year, five of which were found to be adulterated or mislabeled and one to be pure. A detailed report of the adulterated samples is found in Table XIX.

The food laws (Sec. 15, Act No. 193, P. A. 1895) provides that any syrup or molasses mixed with glucose may be sold if each and every barrel, cask, keg or pail containing the same be distinctly branded or labeled "Glucose Mixture," and the per cent in which glucose enters into its composition in letters not less than one-half inch in length. The last legislature passed an act (Act No. 123, P. A. 1903) which allows the sale of any cane or beet syrup containing glucose under the label of "Corn Syrup" or "Glucose Mixture" with the name and percentage of each ingredient which enters into the mixture. This latter act went into effect July 1st, 1903.

MAPLE SYRUP.

Five samples of maple syrup were received during the past year none of which were found to be adulterated.

MOLASSES.

Two samples of New Orleans molasses were examined during the year both of which were found to be pure.

TABLE XIX.—*Syrup*

Laboratory number.	Seal number.	Label.	Manufacturer.
5162	U-49	Old Fashioned Honey Syrup	Gowen, Peyton Twohy Co., Duluth (Jobbers)
5218	K-370	Glucose Mixture Syrup	D. B. S. S. Co., Chicago, Ill
5329	S-293	Champion Princess Syrup	Champion Syrup Refin. Co., Indianapolis, Ind.
5421	L-316	Syrup	None given
66a	....	Goyer's Maplecane Syrup	C. W. Goyer & Co., Memphis, Tenn.

VINEGAR.

Considerable attention has been given to the subject of vinegar by this Department in the past. It was one of the first questions to be investigated, for when our present food law went into effect (July 1st, 1895) probably at least nine-tenths of the product sold for cider vinegar was only distilled vinegar colored. This sophistication was easily detected as the product contained little or no solids or ash, and the goods were soon driven from the market. This was, however, followed by a product obtained by adding to distilled vinegar molasses, glucose or scorched boiled cider or apple jelly, which gave the necessary amount of solids and the color. Later there was added to this product lime or waste soda ash to give the requisite amount of mineral matter. These fraudulent products, though requiring a more extensive examination, were readily detected on analysis by the solids and ash not having the properties of the solids and ash of vinegar made from pure apple juice.

The legislature of 1897 passed an act (Act No. 71, P. A. 1897) requiring all vinegars to be made wholly from the fruit or grain from which they purport to be or are represented to be, to contain no foreign substance. and to contain not less than 4 per cent, by weight, of acetic acid. It further requires that all cider or other fermented vinegars shall contain not less than one and three-fourths per cent, by weight, of solids (at the temperature of boiling water) contained in the grain from which the vinegar is fermented and not less than two and one-half tenths of one per cent ash or mineral matter, the same being the product of the material from which the vinegar is manufactured. This act was held to be consti-

found adulterated.

Retailer.	% Solids.	% Ash.	% Reducing sugar.	Polarization. Direct.	Polarization. Invert.	Polarization. Temperature.	Remarks.
J. F. Zerbell, Marquette	74.00	0.98	31.97	+147.8	+139.5	22	A glucose mixture.
Wm. Schoder, Battle Creek	74.85	0.98	40.60	+127.8	+118.8	20	Not proper labeled.
Z. T. Maynard, Hudson	76.23	1.17	34.52	+147.8	+139.9	20	A glucose mixture
F. E. Standish, Blanchard	71.40	3.16	25.68	+102.6	+71.6	20	" " "
Not given	71.02	0.37	22.78	+120.0	+83.6	23	" " "

tutional by the State Supreme Court in the case of People vs. Worden Grocery Co. (118 Mich. 604.)

During the past year 17 samples of vinegar, all sold for cider vinegar were received at the laboratory for analysis. Nine of these samples were found to be adulterated and eight to be pure. A detailed report of the adulterated samples is found in Table XX.

VINEGAR FROM BEET SYRUP REFUSE.

Three samples of vinegar made from the syrup refuse of the beet sugar factories were sent to the laboratory for examination by the Caro Vinegar Co., of Caro, Mich. The samples were practically identical in composition as shown by the following tabulated results of their analyses. All are below the standard in acid strength:

Sample No.	Sp. gravity.	Total solids, %.	Acid as acetic, %.	Ash, %.
1	1.0127	1.81	3.41	0.34
2	1.0127	1.82	3.41	0.33
3	1.0127	1.82	3.41	0.35

The solids were of a peculiar light gray color and of a foamy or granular appearance with a characteristic sweetish odor.

The ash was of a brownish color and light, flaky, appearance. It dissolved in dilute hydrochloric acid with a slight effervescence giving a clear solution on warming. With the spectroscope the hydrochloric acid solution of the ash showed strong lines of lime and potash followed by heavy soda flame.

Lead acetate gave a flaky, slightly brown colored precipitate, forming slowly. When filtered the filtrate was nearly colorless.

TABLE XX.—*Vinegar found adulterated.*

Laboratory number.	Seal number.	Manufacturer.	Retailer.	Specific gravity (15.5°C.)	Total solids.	Acid, as acetic.	Ash.	Color.	Remarks.
					%	%	%		
5025	S-204	F. C. Miller, Milan, Mich.	F. C. Miller & Co., Milan	1.0070	1.27	2.60	0.36	Natural	Cider vinegar low in solids and acid strength.
5048	S-212	Price & Lucas, Louisville, Ky	A. W. Grassle, Monroe	1.0050	0 22	4.36	0.07	Foreign	Distilled vinegar colored.
5111	K-340	D. R. Parish, Grand Rapids, Mich.	M. H. Barber, Grand Rapids	1.0189	3.66	3.62	0.58	Natural	Cider vinegar low in acid strength.
5187	K-345	A. W. Strong, Ionia, Mich.	W. C. Amphlett, Ionia	1.0183	4.22	3.36	0.35	"	" " " " " "
5337	R-212	Red Cross Vinegar Co., St. Louis, Mo.	E. D. Glaspie, Oxford	1.0072	0.23	4.29	0.02	Foreign	Distilled vinegar colored.
5338	S-294	N. Blakeman, Hudson, Mich	E. Hawkins & Son, Clayton	1.0159	3.12	2.88	0.57	Natural	Cider vinegar low in acid strength.
5367	K-405	Rend Firth, Troy, Mich.	S. Levy, Big Beaver	1.0166	3.16	3.88	0.57	"	" " " " " "
5455	R 242	Peter Nelson, Howell, Mich	H. W. Balch, Howell	1.0088	1.59	3.60	0 38	"	" " " " solids and acid strength.
5504	L-342	Price & Lucas, Louisville, Ky	Comstock & Weed, Petoskey	1.0068	0.32	3.94	0.06	Foreign	Distilled vinegar colored.

METHODS OF EXAMINATION OF VINEGAR.

Specific Gravity.—Determine the specific gravity at 15.5° C. with a 25 c.c. or 50 c.c. pycnometer.

Total Solids.—Evaporate 10 grams of sample in a weighed flat-bottomed platinum dish of at least 50 mm. diameter on the water bath to a sirupy consistency and then for 2½ hours in drying oven at temperature of boiling water. Cool and weigh. The appearance, odor, etc., should be noted, as they are characteristic with pure cider vinegar.

Ash.—Ignite the residue from determination of total solids to a white or greyish-white ash at below red heat in a muffle furnace. Dissolve in dilute hydrochloric acid and examine with spectroscope. Pure cider vinegar ash gives pure potash flames.

Acetic Acid.—Titrate 5 c.c. of the sample against normal fifth sodium hydroxid solution. Reduce to grams of acetic acid and divide by weight of the 5 c.c. of vinegar taken as determined from specific gravity.

Optical Activity.—Clarify a portion of the sample by addition of lead subacetate, or if necessary, bone black, and polarize in Schmidt and Haensch instrument. Pure cider vinegars give a slight laevo-rotation.

Valuable information as to the purity of cider vinegar may be obtained by determination of the alkalinity, soluble and insoluble phosphoric acid by method of Smith as modified by Frear.* Also by determination of potash, soda, lime, etc.

MISCELLANEOUS PRODUCTS.

A sample (R-168) of a product called "Extract of Salyx," manufactured by California Fruit and Chemical Co., of St. Louis, Mo., was received for examination. This preparation was for use in canning fruits and on examination proved to be a mixture of sugar, water and Salicylic acid.

A sample (K-344) of "Monarch Pure Maple Cream," manufactured by Reid, Murdoch & Co.. of Chicago, Ill., was received for examination. The preparation is for spreading cakes, biscuits, etc. Sample was found to be a mixture of water, sugar, a little glucose, some dark color matter or extract and possibly a little maple sugar or syrup.

Three samples (L-266, 267 and 268) of "Cream," sold to bakers for base of frosting and filling for cakes were examined. These consisted of a mixture of magnesium carbonate, sugar, glucose, water, coloring matter (coal tar dye and cochineal), and flavoring material. The orange and lemon had the orange and lemon oils respectively; the strawberry was flavored with compound ethers.

A sample (L-289) of "Tri-Avena Meat" claimed to be a pure vegetable product, was examined during the year. Sample was found to be a preparation from peanuts.

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* Jour. Am. Chem. Soc., 1898, 20, 5.

PROSECUTIONS.

STATEMENT OF PROSECUTIONS.

FISCAL YEAR ENDING JUNE 30, 1903.

Cases pending July 1, 1902	29
Cases commenced during fiscal year	39
Cases nolle prossed	4

CASES DISPOSED OF.

Before examining magistrates:	
Defendants bound over	26
Defendants discharged	7
In trial courts:	
Defendants convicted	42
Defendants acquitted	0
Cases pending July 1, 1903	15
In supreme court:	
Cases pending July 1, 1902	1
Cases appealed from lower courts	2

HEARINGS.

Affirmed	1
Reversed and new trial ordered	1
*Cases pending July 1, 1903	1

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*Since affirmed.

BEFORE EXAMINING MAGISTRATES.

Defendants.	Charge—Unlawful sale of.	County.	Result.
Harry Hurley	Oleomargarine	Kalkaska	Bound over.
Albert B. Harman	Oleomargarine	Benzie	Bound over.
Charles F. Kelly	Oleomargarine	Crawford	Bound over.
Francis F. Schmidt	Oleomargarine	Wayne	Bound over.
Peter Smith & Son	Oleomargarine	Wayne	Bound over.
McWilliams & Moore	Oleomargarine	Wayne	Bound over.
Lafer Bros	Oleomargarine	Wayne	Bound over.
Edward Raulo	Oleomargarine	Wayne	Bound over.
Charles Addison	Oleomargarine	Wayne	Bound over.
Francis T. Schmidt	Oleomargarine	Wayne	Bound over.
Peter Smith & Son	Oleomargarine	Wayne	Bound over.
The Great Atlantic & Pacific Co.	Pepper	Kent	Bound over.
Geo. W. Morse	Oleomargarine	Kent	Bound over.
F. J. Dettenthaler	Oleomargarine	Kent	Bound over.
Alfred Cook	Oleomargarine	Cheboygan	Bound over.
De Boe, King & Co.	Lemon extract	Muskegon	Bound over.
Charles W. Jennings	Lemon extract	Muskegon	Bound over.
Charles Addison	Oleomargarine	Wayne	Bound over.
McWilliams & Moore	Oleomargarine	Wayne	Bound over.
Oscar Ascher	Oleomargarine	Wayne	Bound over.
E. W. Hinshaw	Vanilla extract	Saginaw	Bound over.
James Stewart	Lemon extract	Saginaw	Bound over.
James Stewart	Vanilla extract	Saginaw	Bound over.
Love Bros	Oleomargarine	Wayne	Bound over.
Walter H. Williams	Jelly	Wayne	Bound over.
E. A. Charbonneau & Co.	Jelly	Wayne	Bound over.

IN TRIAL COURTS.

Defendants.	Charge—Unlawful sale of.	County.	Sentence.
Wm. G. VanKersen	Oleomargarine	Kalamazoo	Fined $50.
Thomas J. Sloan	Oleomargarine	Kalamazoo	Fined $50.
Samuel Hoekstra	Oleomargarine	Kalamazoo	Fined $50.
John H. Spoelman	Oleomargarine	Muskegon	Fined $75.
Will H. Hamilton	Oleomargarine	Calhoun	Fined $50 and $10 costs.
William A. Major	Oleomargarine	Emmet	Fined $51.
A. B. Thompson	Oleomargarine	Emmet	Fined $51.
Colby-Hinkley Co	Oleomargarine	Emmet	Suspended.
Charles Weiffenbach	Oleomargarine	Antrim	Fined $50.
Antrim Iron Co	Oleomargarine	Antrim	Fined $50.
Adolph Fotchman	Oleomargarine	Emmet	Fined $51.
John M. Cook	Oleomargarine	Ottawa	Suspended.
E. G. Snider & Co	Oleomargarine	Wexford	*Fined $50 and costs.
Enterprise Grocery Co	Oleomargarine	Grand Traverse	Fined $50 and costs.
Frank Johnson	Oleomargarine	Wexford	*Fined $50. Remitted.
Charles Freund	Oleomargarine	Berrien	†Fined $50 and costs.
Fred W. Pugsley	Oleomargarine	Cass	Fined $50.
Charles D. Hirsch	Oleomargarine	Van Buren	†Fined $50 and costs.
Harry Hurley	Oleomargarine	Kalkaska	*Fined $50 and costs.
V. W. White	Oleomargarine	Otsego	Fined $50 and costs.
John Doerr	Oleomargarine	Saginaw	Fined $50.
Alexander D. Phillipe	Oleomargarine	Saginaw	Fined $50.
Albert B. Harmon	Oleomargarine	Benzie	Fined costs.
Charles F. Kelly	Oleomargarine	Crawford	Fined $50.
Francis F. Schmidt	Oleomargarine	Wayne	*Fined $50.
Peter Smith & Sons	Oleomargarine	Wayne	*Fined $50.
Lafer Bros	Oleomargarine	Wayne	*Fined $50.
Edward Raulo	Oleomargarine	Wayne	*Fined $50.
Charles Addison	Oleomargarine	Wayne	*Fined $50.
Francis T. Schmidt	Oleomargarine	Wayne	*Fined $50.
Peter Smith & Sons	Oleomargarine	Wayne	*Fined $50.
Great Atlantic & Pacific Co	Pepper	Kent	Fined $50.
George W. Morse	Oleomargarine	Kent	Fined $50.
Alfred Cook	Oleomargarine	Cheboygan	Fined $50.
De Boe, King & Co	Lemon extract	Muskegon	
Charles W. Jennings	Lemon extract	Muskegon	Appealed. Fined $100.
Carl A. Fiene	Mustard	Saginaw	Fined $50.
E. W. Hinshaw	Vanilla extract	Saginaw	
Tanner & Dailey	Jelly	Bay	Fined $25 and costs.
Charles H. Kretschmer	Jelly	Saginaw	Fined $50.
E. G. Dailey	Jelly	Saginaw	Fined $25.
Martin L. Buck	Milk	Ingham	Fined $10.

* Fine remitted. † $49.00 of fine remitted.

COURT PROCEEDINGS.

FISCAL YEAR ENDING JUNE 30, 1903.

CASE NO. 158.

People vs. William LaTraugh.

Charge: Serving oleomargarine without displaying sign.
In Circut Court, County of Oakland, July 1, 1903. Case nolle prossed.

CASE NO. 183.

People vs. Enoch Cummings.

Charge: Serving oleomargarine in hotel without displaying sign.
In Circut Court of Calhoun County, July 1, 1903. Case pending.

CASE NO. 270.

People vs. Thomas D. Ryan.

Charge: Selling adulterated mustard.
In Police Court, City of Bay City, September 21, 1901. Complaint made by Frank H. Gregory, Inspector: Case nolle prossed.

CASE NO. 271.

People vs. Wm. G. VanKersen.

Charge: Selling oleomargarine artificially colored.
In Recorder's Court, City of Kalamazoo, September 26, 1901: Complaint made by John R. Bennett, Inspector. November 7, 1901: Defendant waived examination. Bound over to the Circuit Court for the County of Kalamazoo for trial. In the Circuit Court for the County of Kalamazoo, November 17, 1902: Defendant arraigned; plea, guilty; fined $50.00; fine paid.

CASE NO. 272.

People vs. Thomas J. Sloan.

Charge: Selling oleomargarine artificially colored.
In Recorder's Court, City of Kalamazoo, September 26, 1901: Complaint made by John R. Bennett, Inspector. November 7, 1901: Defendant waived examination. Bound over to the Circuit Court for the County of Kalamazoo for trial. In the Circuit Court for the County of Kalamazoo, November 17, 1902: Defendant arraigned; plea, guilty; fined $50.00; fine paid.

CASE NO. 273.

People vs. Samuel Hoekstra.

Charge: **Selling oleomargarine artificially colored.**

In Recorder's Court, City of Kalamazoo, September 26, 1901: Complaint made by John R. Bennett, Inspector. November 7, 1901: Defendant waived examination. Bound over to the Circuit Court for the County of Kalamazoo for trial. In the Circuit Court for the County of Kalamazoo, November 17, 1902: Defendant arraigned; plea, guilty; fined $50.00; fine paid.

CASE NO. 275.

People vs. John H. Spoelman.

Charge: Selling oleomargarine artificially colored.

In Justice Court, City of Muskegon, September 30, 1901: Complaint made by John R. Bennett, Inspector. November 6, 1901: Examination held. Defendant bound over to the Circuit Court for the County of Muskegon for trial. In the Circuit Court for the County of Muskegon, September 30, 1902: Defendant arraigned; plea, guilty; fined $75.00; fine paid.

CASE NO. 288.

People vs. Will H. Hamilton.

Charge: Selling oleomargarine artificially colored.

In Justice Court, City of Battle Creek, November 8, 1901: Complaint made by John R. Bennett, Inspector. January 3, 1902: Defendant bound over to the Circuit Court for the County of Calhoun for trial. In the Circuit Court for the County of Calhoun, August 4, 1902: Defendant arraigned; plea, guilty; fined $50.00 and $10.00 costs; fine paid.

CASE NO. 289.

People vs. Wm. A. Major.

Charge: Selling oleomargarine artificially colored.

In Justice Court, City of Petoskey, November 8, 1901: Complaint made by Gilman M. Dame, Inspector. November 25, 1901: Examination held. Bound over to the Circuit Court for the County of Emmet for trial. In the Circuit Court for the County of Emmet, September 17, 1902: Defendant arraigned; plea, guilty; fined $51.00; fine paid.

CASE NO. 290.

People vs. A. B. Thompson.

Charge: Selling oleomargarine artificially colored.

In Justice Court, City of Petoskey, November 8, 1901: Complaint made by Gilman M. Dame, Inspector. November 25, 1901: Examination held. Bound over to the Circuit Court for the County of Emmet for trial. In the Circuit Court for the County of Emmet, September 17, 1902: Defendant arraigned; plea, guilty; fined $51.00; fine paid.

CASE NO. 295.

People vs. Colby-Hinkley Co.

Charge: Selling oleomargarine artificially colored.

In Justice Court, City of Petoskey, November 26, 1901: Complaint made by Gilman M. Dame, Inspector. November 27, 1901: Examination held. Bound over to the Circuit Court for the County of Emmet for trial. In the Circuit Court for the County of Emmet, November 11, 1902: Defendant arraigned; plea, guilty. Sentence suspended owing to illness of respondent.

CASE NO. 298.

People vs. Charles Weiffenbach.

Charge: Selling oleomargarine artificially colored.

In Justice Court, Village of Bellaire, December 11, 1901: Complaint made by Gilman M. Dame, Inspector. January 9, 1902: Examination held. Bound over to the Circuit Court for the County of Antrim for trial. In the Circuit Court for the County of Antrim, July 28, 1902: Defendant arraigned; plea, guilty; fined $50.00; fine paid.

CASE NO. 301.

People vs. Antrim Iron Co.

(W. E. Vaughan.)

Charge: Selling oleomargarine artificially colored.

In Justice Court, Village of Mancelona, December 28, 1901: Complaint made by Gilman M. Dame, Inspector. January 10, 1902. Examination held. Bound over to the Circuit Court for the County of Antrim for trial. In the Circuit Court for the County of Antrim, July 28, 1902: Defendant arraigned; plea, guilty; fined $50.00; fine paid.

CASE NO. 302.

People vs. Adolph Fotchman.

Charge: Selling oleomargarine artificially colored.

In Justice Court, City of Petoskey, January 9, 1902: Complaint made by Gilman M. Dame, Inspector. January 10, 1902: Examination held. Bound over to the Circuit Court for the County of Emmet for trial. In the Circuit Court for the County of Emmet, September 17, 1902: Defendant arraigned; plea, guilty; fined $51.00; fine paid.

CASE NO. 304.

People vs. John M. Cook.

Charge: Selling oleomargarine artificially colored.

In Justice Court, City of Grand Haven, January 11, 1902: Complaint made by John R. Bennett, Inspector. January 11, 1902: Defendant waived examination. Bound over to the Circuit Court for the County of Ottawa for trial. In the Circuit Court for the County of Ottawa, September 15, 1902: Defendant arraigned; plea, guilty: sentence suspended.

CASE NO. 305.

People vs. E. G. Snider & Co.

Charge: Selling oleomargarine artificially colored.

In Recorder's Court, City of Cadillac, January 11, 1902: Complaint made by Gilman M. Dame, Inspector. January 11, 1902: Examination held. Bound over to the Circuit Court for the County of Wexford for trial. In the Circuit Court for the County of Wexford, August 25, 1902: Defendant arraigned; plea, guilty; fined $50.00 and costs; fine remitted.

CASE NO. 306.

People vs. Enterprise Grocery Co.

(Fay Hamlin.)

Charge: Selling oleomargarine artificially colored.

In Justice Court, City of Traverse City, January 11, 1902: Complaint made by Gilman M. Dame, Inspector. January 13, 1902: Examination held. Bound over to the Circuit Court for the County of Grand Traverse for trial. In the Circuit Court for the County of Grand Traverse, October 13, 1902: Defendant arraigned; plea, guilty; fined $50.00 and costs; fine paid.

CASE NO. 307.

People vs. Frank Johnson.

Charge: Selling oleomargarine artificially colored.

In Recorder's Court, City of Cadillac, January 11, 1902: Complaint made by Gilman M. Dame, Inspector. January 11, 1902: Examination held. Bound over to the Circuit Court for the County of Wexford for trial. In the Circuit Court for the County of Wexford, February 4, 1902: Defendant acquitted under direction of the court, it holding that the so called oleomargarine law is unconstitutional. August 25, 1902: Case reinstated subsequent to opinion filed by Supreme Court in case of People vs. Rotter. Defendant entered a plea of guilty; fined $50.00; fine remitted.

CASE NO. 308.

People vs. Herman Rapp.

Charge: Selling oleomargarine artificially colored.

In Justice Court, City of West Bay City, January 13, 1902: Complaint made by Frank H. Gregory, Inspector. January 13, 1902: Defendant waived examination. Bound over to the Circuit Court for the County of Bay for trial. Case pending.

CASE NO. 309.

People vs. Charles Freund.

Charge: Selling oleomargarine artificially colored.

In Justice Court, City of St. Joseph, January 15, 1902: Complaint made by John R. Bennett, Inspector. January 15, 1902: Defendant waived examination. Bound over to the Circuit Court for the County of Berrien for trial. In the Circuit Court for the County of Berrien, September 29, 1902: Defendant arraigned; plea, guilty; fined $50.00 and costs; $49.00 of this fine was remitted.

CASE NO. 310.

People vs. Fred W. Pugsley.

Charge: Selling oleomargarine artificially colored.

In Justice Court, City of Dowagiac, January 17, 1902: Complaint made by John R. Bennett, Inspector. January 31, 1902: Examination held. Bound over to the Circuit Court for the County of Cass for trial. In the Circuit Court for the County of Cass, October 13, 1902: Defendant arraigned; plea, guilty; fined $50.00; fine paid.

CASE NO. 311.

People vs. Charles D. Hirsch.

Charge: Selling oleomargarine artificially colored.

In Justice Court, City of Benton Harbor, February 5, 1902: Complaint made by John R. Bennett, Inspector. February 5, 1902: Defendant waived examination. Bound over to the Circuit Court for the County of Van Buren for trial. In the Circuit Court for the County of Van Buren, May 22, 1903: Defendant arraigned; plea, guilty; fined $50.00 and costs; $49.00 of this fine was remitted.

CASE NO. 314.

People vs. Harry Hurley.

Charge: Selling oleomargarine artificially colored.

In Justice Court, City of Kalkaska, August 26, 1902: Complaint made by Gilman M. Dame, Inspector. September 8, 1902: Examination waived. Bound over to the Circuit Court for the County of Kalkaska for trial. November 10, 1902: Defendant arraigned; plea, guilty; fined $50.00 and costs; fine remitted.

CASE NO. 315.

People vs. V. W. White.

Charge: Selling oleomargarine artificially colored.

In Justice Court, City of Gaylord, February 12, 1902: Complaint made by Gilman M. Dame, Inspector. February 27, 1902: Examination held. Bound over to the Circuit Court for the County of Otsego for trial. September 24, 1902: Case nolle prossed, the facts being similar to those in Skillman case.

CASE NO. 316.

People vs. V. W. White.

Charge: Selling oleomargarine artificially colored.

In Justice Court, City of Gaylord, February 13, 1902: Complaint made by Gilman M. Dame, Inspector. February 27, 1902: Examination held. Bound over to the Circuit Court for the County of Otsego for trial. In the Circuit Court for the County of Otsego, September 22, 1902: Defendant arraigned; plea, guilty; fined $50.00 and costs; fine paid.

CASE NO. 318.

People vs. John Doerr.

Charge: Selling oleomargarine artificially colored.

In Justice Court, City of Saginaw, April 16, 1902: Complaint made by Frank H. Gregory, Inspector. December 16, 1902: Defendant arraigned; plea, guilty; fined $50.00; fine paid.

CASE NO. 319.

People vs. Robert J. Brown & David C. Goodell.

Charge: Selling oleomargarine artificially colored.

In Justice Court, City of Saginaw, April 16, 1902: Complaint made by Frank H. Gregory, Inspector. Case pending.

CASE NO. 320.

People vs. Alexander D. Phillipe.

Charge: Selling oleomargarine artificially colored.

In Justice Court, City of Saginaw, April 16, 1902: Complaint made by Frank H. Gregory, Inspector. December 2, 1902: Defendant arraigned; plea, guilty; fined $50.00; fine paid.

CASE NO. 321.

People vs. Thomas S. Linn, of Algonac.

Charge: Selling oleomargarine as dairy butter.

In Justice Court, City of Port Huron, April 9, 1902: Complaint made by Frank H. Gregory, Inspector. April 15, 1902: Examination held. Bound over to the Circuit Court for the County of St. Clair for trial. Case pending.

CASE NO. 322.

People vs. John Monsell.

Charge: Selling adulterated jelly.

In Justice Court, City of Port Huron, April 10, 1902: Complaint made by Frank H. Gregory, Inspector. April 13, 1902: Examination held. Bound over to the Circuit Court for the County of St. Clair for trial. Case nolle prossed.

CASE NO. 323.

People vs. Albert B. Harmon.

Charge: Selling oleomargarine artificially colored.

In Justice Court, Village of Frankfort, July 22, 1902: Complaint made by Gilman M. Dame, Inspector. July 29, 1902: Examination held. Bound over to the Circuit Court for the County of Benzie for trial. In the Circuit Court for the County of Benzie, August 18, 1902: Defendant arraigned; plea, guilty; fined costs.

CASE NO. 324.

People vs. Charles F. Kelly.

Charge: Selling oleomargarine artificially colored.

In Justice Court, City of Grayling, July 12, 1902: Complaint made by Gilman M. Dame, Inspector. July 12, 1902: Defendant waived examination. Bound over to the Circuit Court for the County of Crawford for trial. In the Circuit Court for the County of Crawford, January 19, 1903: Defendant arraigned; plea, guilty; fined $50.00; fine paid.

CASE NO. 325.

People vs. Francis F. Schmidt.

Charge: Selling oleomargarine artificially colored.

In Police Court, City of Detroit, July 30, 1902: Complaint made by Perley C. Heald, Deputy Commissioner. August 8, 1902: Defendant waived examination. Bound over to the Recorder's Court of the City of Detroit for trial. In the Recorder's Court of the City of Detroit, December 9, 1902: Defendant arraigned; plea, guilty; fined $50.00; fine remitted.

CASE NO. 326.

People vs. Peter Smith & Sons.

Charge: Selling oleomargarine artificially colored.

In Police Court, City of Detroit, July 30, 1902: Complaint made by Perley C. Heald, Deputy Commissioner. August 8, 1902: Defendant waived examination. Bound over to the Recorder's Court of the City of Detroit for trial. In the Recorder's Court of the City of Detroit, December 9, 1902: Defendant arraigned; plea, guilty; fined $50.00; fine remitted.

CASE NO. 327.

People vs. McWilliams & Moore.

Charge: Selling oleomargarine artificially colored.

In Police Court, City of Detroit, July 30, 1902: Complaint made by Perley C. Heald, Deputy Commissioner. August 8, 1902: Defendant waived examination. Bound over to the Recorder's Court of the City of Detroit for trial. Case pending.

CASE NO. 328.

People vs. Lafer Bros.

Charge: Selling oleomargarine artificially colored.

In Police Court, City of Detroit, August 8, 1902: Complaint made by Perley C. Heald, Deputy Commissioner. September 2, 1902: Examination held. Bound over to the Recorder's Court of the City of Detroit for trial. In the Recorder's Court of the City of Detroit, November 11, 1902: Defendant arraigned; plea, guilty; fined $50.00; fine remitted.

CASE NO. 329.

People vs. Edward Raulo.

Charge: Selling oleomargarine artificially colored.

In Police Court, City of Detroit, August 8, 1902: Complaint made by John McMahon, Inspector. August 9, 1902: Defendant waive dexamination. Bound over to the Recorder's Court of the City of Detroit for trial. In the Recorder's Court of the City of Detroit, November 14, 1902: Defendant arraigned; plea, guilty; fined $50.00; fine remitted.

CASE NO. 330.

People vs. Charles Addison.

Charge: Selling oleomargarine artificially colored.

In Police Court, City of Detroit, August 8, 1902: Complaint made by John McMahon, Inspector. August 8, 1902: Defendant waived examination. Bound over to the Recorder's Court of the City of Detroit for trial. In the Recorder's Court of the City of Detroit, November 14, 1902: Defendant arraigned; plea, guilty; fined $50.00; fine remitted.

CASE NO. 331.

People vs. Francis T. Schmidt.

Charge: Selling oleomargarine artificially colored.

In Police Court, City of Detroit, August 8, 1902: Complaint made by John McMahon, Inspector. August 8, 1902: Defendant waived examination. Bound over to the Recorder's Court of the City of Detroit for trial. In the Recorder's Court of the City of Detroit, November 14, 1902: Defendant arraigned; plea, guilty; fined $50.00; fine remitted.

CASE NO. 332.

People vs. Peter Smith & Sons.

Charge: Selling oleomargarine artificially colored.

In Police Court, City of Detroit, August 8, 1902: Complaint made by John McMahon, Inspector. August 8, 1902: Defendant waived examination. Bound over to the Recorder's Court of the City of Detroit for trial. In the Recorder's Court of the City of Detroit, December 9, 1902: Defendant arraigned; plea, guilty; fined $50.00; fine remitted.

CASE NO. 333.

People vs. The Great Atlantic & Pacific Co.

(D. H. Hall.)

Charge: Selling adulterated pepper.

In Police Court, City of Grand Rapids, September 9, 1902: Complaint made by John R. Bennett, Inspector. September 19, 1902: Defendant waived examination. Bound over to the Superior Court of the City of Grand Rapids for trial. In the Superior Court of the City of Grand Rapids, September 19, 1902: Defendant arraigned; plea, guilty: September 22, 1902: Defendant fined $50.00; fine paid.

CASE NO. 334.

People vs. George W. Morse.

Charge: Selling oleomargarine artificially colored.

In Police Court, City of Grand Rapids, September 9, 1902: Complaint made by John R. Bennett, Inspector. October 17, 1902: Examination held. Bound over to the Superior Court of the City of Grand Rapids for trial. In the Superior Court of the City of Grand Rapids, December 9, 1902: Defendant arraigned; plea, guilty; fined $50.00; fine paid.

CASE NO. 335.

People vs. F. J. Dettenthaler.

Charge: Selling yellow oleomargarine, color produced from ingredients.

In Police Court, City of Grand Rapids, September 9, 1902: Complaint made by John R. Bennett, Inspector. October 17, 1902: Examination held. Bound over to the Superior Court of the City of Grand Rapids for trial. Case pending.

CASE NO. 336.

People vs. Alfred Cook.

Charge: Selling oleomargarine artificially colored.

In Justice Court, Village of Wolverine, July 10, 1902: Complaint made by Gilman M. Dame, Inspector. July 18, 1902: Examination held. Bound over to the Circuit Court for the County of Cheboygan for trial. In the Circuit Court for the County of Cheboygan, September 22, 1902: Defendant arraigned; plea, guilty; fined $50.00; fine paid.

CASE NO. 337.

People vs. DeBoe, King & Co.

Charge: Selling adulterated extract of lemon.

In Justice Court, City of Muskegon, October 9, 1902: Complaint made by John R. Bennett, Inspector. October 31, 1902: Examination held. Bound over to the Circuit Court for the County of Muskegon for trial. In the Circuit Court for the County of Muskegon, November 25, 1902: Defendant arraigned; plea, guilty.

CASE NO. 338.

People vs. Chas. W. Jennings.

Charge: Selling adulterated extract of lemon.

In Justice Court, City of Muskegon, October 9, 1902: Complaint made by John R. Bennett, Inspector. October 31, 1902: Examination held. Bound over to the Circuit Court for the County of Muskegon for trial. In the Circuit Court for the County of Muskegon, November 25, 1902: Defendant arraigned; plea, not guilty. November 25, 1902: Defendant tried and convicted. Stay of 60 days granted pending an appeal. Appeal taken to the Supreme Court. In the Supreme Court, February 20, 1903: Case argued and submitted. April 7, 1903: Conviction reversed and new trial ordered. In the Circuit Court in and for Muskegon County, case set for retrial on May 12, 1903. May 11, 1903: Defendant withdrew his plea of not guilty and pleaded guilty. A fine of $100.00 was imposed by the court. Fine paid.

CASE NO. 339.

People vs. Charles Addison.

Charge: Selling yellow oleomargarine, color produced from ingredients.

In Police Court, City of Detroit, November 26, 1902: Complaint made by John McMahon, Inspector. December 9, 1902: Examination held. Bound over to the Recorder's Court of the City of Detroit for trial. Case pending.

CASE NO. 340.

People vs. C. H. Michell.

Charge: Selling yellow oleomargarine, color produced from ingredients.

In Police Court, City of Detroit, November 26, 1902: Complaint made by John McMahon, Inspector, January 30, 1903: Examination held. Defendant discharged, the court holding that the yellow color, being due to the natural ingredients of the product, was not in violation of the statute.

CASE NO. 341.

People vs. McWilliams & Moore.

Charge: Selling yellow oleomargarine, color produced from ingredients.

In Police Court, City of Detroit, November 26, 1902: Complaint made by John McMahon, Inspector. December 9, 1902: Examination held. Bound over to the Recorder's Court of the City of Detroit for trial. Case pending.

CASE NO. 342.

People vs. Oscar Ascher.

Charge: Selling yellow oleomargarine, color produced from ingredients.

In Police Court, City of Detroit, November 26, 1902: Complaint made by John McMahon, Inspector. December 9, 1902: Defendant waived examination. Bound over to the Recorder's Court of the City of Detroit for trial. Case pending.

CASE NO. 343.

People vs. Carl A. Fiene.

Charge: Selling adulterated mustard.

In Justice Court, City of Saginaw, November 10, 1902: Complaint made by Frank H. Gregory, Inspector. November 10, 1902: Defendant arraigned; plea, guilty; fined $50.00; fine paid.

CASE NO. 344.

People vs. E. W. Hinshaw.

Charge: Selling adulterated extract of vanilla.

In Justice Court, City of Saginaw, November 24, 1902: Complaint made by Frank H. Gregory, Inspector. December 22, 1902: Defendant waived examination. Bound over to the Circuit Court for the County of Saginaw for trial. In the Circuit Court for the County of Saginaw, March 23, 1903: Defendant arraigned; plea, not guilty. March 23, 1903: Defendant tried and convicted. Stay of sentence pending an appeal to the Supreme Court.

CASE NO. 345.

People vs. James Stewart.

Charge: Selling adulterated extract of lemon.

In Justice Court, City of Saginaw, November 24, 1902: Complaint made by Frank H. Gregory, Inspector. December 22, 1902: Defendant waived examination. Bound over to the Circuit Court for the County of Saginaw for trial. Case pending.

CASE NO. 346.

People vs. James Stewart.

Charge: Selling adulterated extract of vanilla.

In Justice Court, City of Saginaw, November 24, 1902: Complaint made by Frank H. Gregory, Inspector. December 22, 1902: Defendant waived examination. Bound over to the Circuit Court for the County of Saginaw for trial. Case pending.

CASE NO. 347.

People vs. Robert Downie & Sons.

Charge: Selling yellow oleomargarine, color produced from ingredients.

In Police Court, City of Detroit, December 22, 1902: Complaint made by John McMahon, Inspector. January 30, 1903: Examination held. Defendant discharged, the court holding that the yellow color, being due to the natural ingredients of the product, was not in violation of the statute.

CASE NO. 348.

People vs. Max Smith.

Charge: Selling oleomargarine for butter.

In Police Court, City of Bay City, December 20, 1902: Complaint made by Frank H. Gregory, Inspector. December 29, 1902: Examination held. April 13, 1903: Defendant discharged on motion of the Prosecuting Attorney.

CASE NO. 349.

People vs. Edwin B. Robinson.

Charge: Selling yellow oleomargarine, color produced from ingredients.

In Police Court, City of Detroit, November 26, 1902: Complaint made by John McMahon, Inspector. January 30, 1903: Defendant discharged, the court holding that the yellow color, being due to the natural ingredients of the product, was not in violation of the statute.

CASE NO. 350.

People vs. Lafer Bros.

Charge: Selling yellow oleomargarine, color produced from ingredients.

In Police Court, City of Detroit, December 22, 1902: Complaint made by John McMahon, Inspector. January 30, 1903: Defendant discharged, the court holding that the yellow color, being due to the natural ingredients of the product, was not in violation of the statute.

CASE NO. 351.

People vs. Love Bros.

Charge: Selling yellow oleomargarine, color produced from ingredients.

In Police Court, City of Detroit, December 22, 1902: Complaint made by John McMahon, Inspector. January 9, 1903: Defendant waived examination. Bound over to the Recorder's Court for the City of Detroit for trial. Case pending.

CASE NO. 352.

People vs. Herman B. Cohen.

Charge: Selling yellow oleomargarine, color produced from ingredients.

In Police Court, City of Detroit, December 22, 1902: Complaint made by John McMahon, Inspector. January 30, 1903: Defendant discharged, the court holding that the yellow color, being due to the natural ingredients of the product, was not in violation of the statute.

CASE NO. 353.

People vs. Edwin B. Robinson.

Charge: Selling yellow oleomargarine, color produced from ingredients.

In Police Court, City of Detroit, November 26, 1902: Complaint made by John McMahon, Inspector. January 30, 1903: Defendant discharged, the court holding that the yellow color, being due to the natural ingredients of the product, was not in violation of the statute.

CASE NO. 354.

People vs. Chas. H. Kretschmer.

Charge: Selling adulterated jelly.

In Justice Court, City of Saginaw, February 2, 1903: Complaint made by Frank H. Gregory, Inspector. February 2, 1903: Defendant arraigned; plea, guilty; fined $50.00; fine paid.

CASE NO. 355.

People vs. Tanner & Dailey.

Charge: Selling adulterated jelly.

In Justice Court, City of Bay City, April 18, 1903: Complaint made by Frank H. Gregory, Inspector. April 27, 1903: Defendant arraigned; plea, guilty; fined $25.00 and costs; fine paid.

CASE NO. 356.

People vs. E. G. Dailey, of Detroit.

Charge: Selling adulterated jelly.

In Justice Court, City of Saginaw, April 20, 1903: Complaint made by Frank H. Gregory, Inspector. April 27, 1903: Defendant arraigned; plea, guilty; fined $25.00 and costs; fine paid.

CASE NO. 357.

People vs. Walter H. Williams.

Charge: Selling colored imitation jelly.

In Police Court, City of Detroit, April 21, 1903: Complaint made by John R. Bennett, Inspector. May 8, 1903: Examination held. Bound over to the Recorder's Court of the City of Detroit for trial. Case pending.

CASE NO. 358.

People vs. E. A. Charbonneau.

Charge: Selling imitation fruit jelly, colored.

In Police Court, City of Detroit, April 21, 1903: Complaint made by John R. Bennett, Inspector. May 22, 1903: Examination held. Bound over to the Recorder's Court of the City of Detroit for trial. Case pending.

CASE NO. 359.

People vs. E. G. Dailey.

Charge: Selling imitation jelly, colored.

In Police Court, City of Detroit, April 21, 1903: Complaint made by John R. Bennett, Inspector. Case pending.

CASE NO. 360.

People vs. Martin L. Buck.

Charge: Selling milk below standard.

In Justice Court, City of Lansing, April 23, 1903: Complaint made by John R. Bennett, Inspector. April 23, 1903: Defendant arraigned; plea, guilty; fined $5.00; fine paid.

FINANCIAL STATEMENT.

FINANCIAL STATEMENT.

From July 1, 1902, to June 30, 1903.

Funds available July 1, 1902		$25,000 00
Received from cheese registration fees		45 00

DISBURSEMENTS.

Wilber B. Snow, Commissioner, salary	$1,083 33	
A. W. Smith, Commissioner, salary	916 67	
Perley C. Heald, Deputy Commissioner, salary	1,500 00	
Roscoe E. Doolittle, Analyst, salary	1,500 00	
L. H. VanWormer, Assistant Analyst, salary	1,000 00	
John R. Bennett, Inspector, salary	939 00	
Gilman M. Dame, Inspector, salary	939 00	
Frank H. Gregory, Inspector, salary	939 00	
John McMahon, Inspector, salary	939 00	
James R. McCall, Inspector, salary	939 00	
Rudolph J. Haas, Inspector, salary	939 00	
Ida M. Harris, Clerk, salary	720 00	
Alice Munro, Clerk, salary	720 00	
General expense	7,257 11	
Postage	1,357 50	
Chemicals	498 95	
By balance on hand July 1, 1903	2,857 44	
	$25,045 00	$25,045 00

GENERAL EXPENSE INCLUDES

Wilber B. Snow, Commissioner, expenses	$671 55
A. W. Smith, Commissioner, expenses	280 60
Perley C. Heald, Deputy Commissioner, expenses	1,013 35
Roscoe E. Doolittle, Analyst, expenses	590 06
L. H. VanWormer, Assistant Analyst, expenses	8 41
John R. Bennett, Inspector, expenses	587 99
Gilman M. Dame, Inspector, expenses	1,097 19
Frank H. Gregory, Inspector, expenses	302 48
John McMahon, Inspector, expenses	666 07
James R. McCall, Inspector, expenses	817 05
Rudolph J. Haas, Inspector, expenses	317 63
Express	57 25
Telegraph and telephone	155 79
Attorney's fees, incidentals, etc	691 69
	$7,257 11

BEE APPROPRIATION.

Funds available July 1, 1902		500 00
W. Z. Hutchinson, Inspector, salary	$210 00	
W. Z. Hutchinson, Inspector, expenses	289 08	
By balance on hand July 1, 1903	92	
	$500 00	

CHEESE FACTORIES AND CREAMERIES.

CHEESE REGISTRATION.

(Registered With Privilege to Use the "Michigan Full Cream Cheese" Brand from April 1, 1903, to April 1, 1904.)

ALCONA COUNTY.

Brand No.	Name of Factory.	Location and Postoffice addresses.	Owner or manager.
4.	Mikado Cheese Factory,	Mikado,	Joshua Minthorn.

ALLEGAN COUNTY.

3.	Springdale Cheese Factory,	Hopkins Station,	M. W. Hicks.

BAY COUNTY.

29.	Berger's Cheese Factory,	Amelith, W. Bay City, R. F. D. No. 2,	John Berger.
27.	Nuffer Bros. Factory,	Auburn,	John M. Nuffer.
65.	Monitor Cheese Factory,	Monitor, Auburn, R. No. 1,	Lounsberry & Voss.

CLINTON COUNTY.

24.	Eagle Cheese Factory,	Eagle,	J. H. Fish.

HILLSDALE COUNTY.

69.	Pittsford Cheese Co.,	Pittsford,	F. R. Kedzie.
42.	Prattville Cheese Factory,	Prattville,	Peebles Bros.
17.	Bennett Cheese Factory,	Wheatland, Hudson,	O. F. Foster.

HURON COUNTY.

33.	Port Hope Cheese Factory,	Port Hope,	S. T. Jones.

KENT COUNTY.

84.	Caledonia Cheese Mfg. Co.,	Caledonia,	Jacob Finkbinder.

LENAWEE COUNTY.

6.	Addison Cheese Co.,	Addison,	Addison Cheese Co.
38.	P. T. Bogert Factory,	Adrian, R. No. 4,	P. T. Bogert.
86.	Clayton Cheese Factory,	Clayton,	C. C. Colvin & Son.
10.	Riverside Factory,	Adrian,	Baker & Jurden.
30.	Hudson Cheese Factory,	Hudson,	D. W. Rhead & Co.
12.	Hudson Center Cheese Factory,	Hudson,	M. E. Dillon.
11.	Medina Cheese Factory,	Medina,	C. C. Colvin & Son.
36.	Rome Cheese Factory,	Rome, Adrian, R. No. 4,	P. M. Bates.
77.	Rollin Cheese Factory,	Rollin,	Peebles Bros.

MACOMB COUNTY.

15. Armada Cheese Factory,	Armada,	Dudley Bros.

MECOSTA COUNTY.

19. Big Rapids Cheese Factory,	Big Rapids,	Geo. H. Acker.

MANISTEE COUNTY.

25. Onekama Cheese Factory,	Onekama,	R. F. Wendel, Secy.

MIDLAND COUNTY.

18. Blue Ribbon Cheese Factory,	Coleman,	W. M. Graves & Co.
44. Hope Cheese Factory,	Hope,	Williams & Schearer.

MONROE COUNTY.

59. Dundee Cheese Factory,	Dundee,	H. W. Smith.
67. LaSalle Cheese Factory,	LaSalle, Monroe,	Chas. E. Kirby.
78. Euclid Cheese Co.,	Petersburg,	Oliver T. Rose, Secy.
9. Strasburg Cheese Factory,	Strasburg,	E. C. Sortor.

MONTCALM COUNTY.

45. Butternut Cheese Factory,	Butternut,	J. M. Fitzpatrick.
43. Vickeryville Cheese Factory,	Vickeryville, Carson City,	Geo. R. Lowe.
7. Crystal Cheese Factory,	Crystal,	W. A. Grimm.

OAKLAND COUNTY.

60. Milford Cheese Factory,	Milford,	John Wise.
39. New Hudson Cheese Factory,	New Hudson,	E. J. Rice.

SAGINAW COUNTY.

8. Flint River Cheese, Butter and Mercantile Co..	Fosters,	J. C. Malone.
37. Union Cheese Mfg. Co.,	Frankenmuth, Saginaw, R. No. 4,	John Nuechterlein.
21. Buena Vista Cheese Factory,	Saginaw, R. F. D. 2,	Leonard Baumgaertner.

SHIAWASSEE COUNTY.

28. Laingsburg Cheese Co.,	Laingsburg,	Stoney & Bennett.

TUSCOLA COUNTY.

31. Fostoria Cheese Factory,	Fostoria,	J. A. Picket.
1. Arbela Cheese Co., No. 1,	Arbela, Clio,	J. A. Picket.
68. Tuscola Cheese Mfg. Co.,	Tuscola,	James McPherson.
23. Cartwrights Cheese Factory,	Mayville,	J. F. Cartwright & Sons.

VAN BUREN COUNTY.

16. Base Line Cheese Factory,	Bloomingdale,	Lynn Reid.
85. Hartford Cheese Factory,	Hartford,	S. M. Carpp.

WAYNE COUNTY.

50. Waltz Cheese Co.,	Waltz,	Waltz & Ziegler.

OTHER CHEESE FACTORIES REGISTERED APRIL 1, 1903.

ALLEGAN COUNTY.

Name.	Location and Postoffice addresses.	Owner or manager.
Riverside Cheese Factory,	Hopkins,	Ida A. Mankin.
Moline Cheese Factory,	Moline,	E. N. Bates.

ARENAC COUNTY.

Elm Grove Cheese Factory,	Standish,	Mich. Cooperage Co., Ltd.

BAY COUNTY.

Arn Cheese Factory,	Arn, Bay City,	T. E. Webster.
Willard Cheese Factory,	Willard, Saginaw,	O. Cramer.

BERRIEN COUNTY.

Floral Cheese Factory,	Niles,	F. Tranger.

CASS COUNTY.

Silver Creek Cheese Factory,	Cushing, Dowagiac, R. No. 3,	H. J. Greer.

CLINTON COUNTY.

Maple Leaf Cheese Factory,	Shepardsville,	Johnson & Love.

GENESEE COUNTY.

Vienna Cheese Factory Association,	Clio,	J. R. Sissins.
Grand Blanc Cheese Factory,	Grand Blanc,	H. R. Dewey.

GRATIOT COUNTY.

A. H. Barber & Co.,	Ashley, Chicago, Ill.,	A. H. Barber & Co.
A. H. Barber & Co.,	Breckenridge, Chicago, Ill.,	A. H. Barber & Co.
A. H. Barber & Co.,	Ithaca, Chicago, Ill.,	A. H. Barber & Co.

HILLSDALE COUNTY.

Camden Cheese Factory,	Camden,	O. D. Chester Estate.
Somerset Cheese Factory,	Somerset Center, Liberty,	Silas Davis, Jr.

ISABELLA COUNTY.

Union Cheese Factory,	Mt. Pleasant,	O. Cramer.

KENT COUNTY.

Kent City Cheese Factory,	Kent City,	A. L. Power.
Sand Lake Cheese Factory,	Sand Lake,	Fred Steele.

LAPEER COUNTY.

Columbiaville Cheese Factory,	Columbiaville, Saginaw,	Ladd Bros.
Elba District Dairy Association,	Elba,	Wirt Winship.

LENAWEE COUNTY.

Addison Cheese Factory,	Addison,	LeRoy H. Smith.
Bateman Cheese Factory,	Bateman, Sylvania, O.,	W. E. Durfee.
Green Cheese Factory,	Jasper,	C. H. Delano & Son.
Tipton Cheese Factory,	Tipton,	W. A. Beebe & Son.

LIVINGSTON COUNTY.

Hamburg Cheese Factory,	Hamburg,	C. G. Switzer.

MECOSTA COUNTY.

Remus Cheese Factory,	Remus,	Phillips & Chapin.

MENOMINEE COUNTY.

Nadeau Cheese Factory,	Nadeau,	L. Nadeau.

MISSAUKEE COUNTY.

Vogel Cheese Factory,	Vogel Center,	Smith & DeVor.

MONROE COUNTY.

Carleton Cheese Factory,	Carleton,	C. M. Strong.
Grape Cheese Factory,	Grape,	D. A. Jenkins.
Lulu Cheese Factory,	Lulu,	Geiger & Smith.
Maybee Cheese Factory,	Maybee,	D. A. Jenkins.
Whiteford Cheese Factory,	Whiteford (village),	W. E. Durfee.
Whiteford Cheese Factory,	Whiteford (township),	W. E. Durfee.

MONTCALM COUNTY.

Carson City Cheese Factory,	Carson City,	H. P. Fitzpatrick.
Greenville Cheese Factory,	Greenville, Fenwick,	W. W. Eaton.
Stanton Cheese Factory,	Stanton,	Eaton & Pettit.

OAKLAND COUNTY.

Beddow Cheese Factory,	Brimingham,	J. M. Beddow.
Warner's Cheese Factory,	Farmington,	Fred M. Warner.
Warner's Cheese Factory,	Franklin,	Fred M. Warner.
Warner's Cheese Factory,	Novi,	Fred M. Warner.
South Lyon Cheese Factory,	South Lyon,	H. A. Smith.
Warner's Cheese Factory,	Springbrook,	Fred M. Warner.
Walled Lake Cheese Factory,	Walled Lake,	H. A. Smith.
Wixom Cheese Factory,	Wixom,	H. A. Smith.

OTTAWA COUNTY.

Zeeland Cheese Factory,	Zeeland,	S. Brouwers.

SAGINAW COUNTY.

Brant Cheese Factory,	Brant,	T. A. Cook.
Frankenmuth Cheese Factory,	Frankenmuth,	L. Hubinger.
Cass River Cheese Factory,	Frankenmuth,	Hubinger Bros.
Frankentrost Cheese Factory,	Kulmbach, Saginaw, R. 2,	F. C. Moll.
Merrill Cheese Factory,	Merrill, Chicago, Ill.,	A. H. Barber & Co.
Birch Run Cheese Factory,	Birch Run,	Geo. N. Fisher.

SANILAC COUNTY.

Croswell Cheese Factory,	Croswell,	A. L. McAllister.

SHIAWASSEE COUNTY.

Perry Cheese Factory,	Perry,	Johnson & Love.

TUSCOLA COUNTY.

Warner's Cheese Factory,	Gagetown,	Fred M. Warner.
Silverwood Cheese Factory,	Mayville,	Chas. Reitz.
Vassar Cheese Factory,	Vassar,	Lewis & Lounsbury.

VAN BUREN COUNTY.

Haven's Cheese Factory,	Bloomingdale,	E. A. Haven.

WAYNE COUNTY.

Livonia Cheese Factory,	Farmington, R. No. 2,	Ziegeler Bros.
Gilt Edge Cheese Factory,	Livonia,	A. B. Smith Co.
Northville Cheese Factory,	Farmington,	Warner & Richardson.
Power Factory,	Northville,	A. D. Power & Son.
Warner's Cheese Factory,	Plymouth,	Fred M. Warner.

CREAMERIES REGISTERED APRIL 1, 1903.

ALLEGAN COUNTY.

Name.	Location and Postoffice addresses.	Owner or manager.
Allegan Creamery and Cold Storage Co.,	Allegan,	Chas. Kemmer.
Bradley Skimming Station,	Bradley,	Rudell Creamery.
Burnips Corners Creamery,	Burnips Corners,	Salem Butter & Cheese Co.
Allegan Creamery and Cold Storage Co.,	Chicora, Allegan,	Geo. H. Austin.
Dorr Creamery Co.,	Dorr,	E. S. Botsford.
East Saugatuck Creamery,	Holland,	C. J. Lokker & Co.
Daisy Creamery Co.,	Graafschap,	John G. Rutgers.
Allegan Creamery and Cold Storage Co.,	Hamilton,	Chas. Kemmer.
Hilliards Creamery Co.,	Hilliards,	H. E. Parmelee.
Hopkins Creamery,	Hopkins Station,	H. H. Stroud.
Martin Creamery Co.,	Martin,	A. C. Monteith.
Monterey Creamery,	Hopkins Station,	H. H. Stroud.
Otsego Creamery,	Otsego,	C. I. Curry.
Overisel Creamery,	Overisel,	John Peters.
Wayland Creamery,	Wayland,	Wayland Creamery Co.

ANTRIM COUNTY.

Atwood Creamery Co.,	Atwood,	John Smith.

BARRY COUNTY.

Freeport Creamery Co.,	Freeport,	Freeport Creamery Co.
Hickory Creamery Co.,	Hickory Corners,	P. H. Lawrence.
Cold Spring Creamery,	Middleville,	H. L. Moore.
Nashville Creamery Co.,	Nashville,	W. A. Smith.
Prairieville Creamery Co.,	Prairieville,	M. M. Chase.
Woodland Creamery Co.,	Woodland,	B. S. Holly.
Kawkawlin Creamery Co.,	Kawkawlin, W. Bay City,	David Wilcox.

BERRIEN COUNTY.

Buchanan Creamery Co.,	Buchanan,	Buchanan Creamery Co.
Galien Creamery Co., Ltd.,	Galien,	E. A. Blakeslee.
Glendora Creamery Co.,	Glendora,	John Orris.
Millburg Creamery Association,	Benton Harbor, R. No. 2,	Jos. Sturgeon.
Pipestone Jersey Creamery,	Eau Claire, R. No. 2,	Geo. T. Yetter.
Three Oaks Creamery Co.,	Three Oaks,	Alman Wright.

CALHOUN COUNTY.

Albion Creamery Co.,	Albion,	E. N. Parsons.
Battle Creek Co., Ltd.,	Battle Creek,	Edward Sanford.
Litchfield Butter Co.,	Homer, Litchfield,	R. G. Washburn, Secy.
Joppa Creamery Co.,	Joppa,	E. D. Bushnell, Pres.
Marshall Creamery Co.,	Marshall,	Peter Lockwood.

CASS COUNTY.

Cassopolis Creamery Co.,	Cassopolis,	J. H. Eppley, Secy.

CLARE COUNTY.

Switzer Creamery,	Clare,	E. Switzer.

CLINTON COUNTY.

Looking Glass Creamery,	DeWitt,	Luther W. Sibley.
Maple River Creamery,	Ovid,	A. M. Smith & Co.
Westphalia Creamery Co.,	Westphalia,	Anthony P. Arens.
Fowler Creamery Co.,	Fowler,	A. Krekeler, Secy.

EATON COUNTY.

Charlotte Creamery,	Charlotte,	Charlotte Creamery Co.
Grand River Creamery,	Eaton Rapids,	A. M. Smith & Co.
Mulliken Creamery,	Mulliken,	Geo. E. Potter.
Sunfield Creamery,	Sunfield,	Walcott & Preston.
Vermontville Creamery Co.,	Vermontville,	D. H. Brown.
Olivet Creamery Co.,	Olivet,	Geo. W. Keyes, Secy.

GENESEE COUNTY.

Davison Creamery,	Davison,	Albert Armstrong.
Baker Sanitary Milk Co.,	Flint,	T. H. Baker & Son.
Goodrich Creamery,	Goodrich,	W. A. Cook.
Gibsonville Altruist Community,	Grand Blanc,	S. S. Gibson, Secy.
Rogersville Skimming Station,	Rogersville,	Wisconsin Butter & Cheese Co.

GRATIOT COUNTY.

Alma Creamery.	Alma,	L. A. Sharp, Secy.

HILLSDALE COUNTY.

Camden Creamery.	Camden,	O. D. Chester Est.
Litchfield Butter Co.,	Litchfield,	R. G. Washburn, Secy.

HURON COUNTY.

Lakeside Farm Creamery,	Grindstone City,	Frank Kinch.
Pigeon River Creamery,	Hayes,	C. F. Leipprandt.
Ruth Creamery,	Ruth,	Sebawaing Creamery.
Soule Creamery Association,	Soule,	F. A. Omick.

INGHAM COUNTY.

Leslie Co-operative Co.,	Leslie,	George W. Leach.

IONIA COUNTY.

Hubbardstown Creamery,	Hubbardstown,	M. A. Guild.
Lake Odessa Creamery,	Lake Odessa,	Roberts Bros.
Orleans Creamery Association,	Orleans,	J. M. York.
Portland Creamery,	Portland,	S. M. McKee.

ISABELLA COUNTY.

Isabella County Creamery Co.,	Mt. Pleasant,	John McDonald.
Shepherd Creamery Co.,	Shepherd,	H. L. Jones.

JACKSON COUNTY.

Brooklyn Creamery,	Brooklyn,	Thompson Butter Co.
Jersey Creamery Co.,	Hanover,	T. J. Strait.
American Condensed Milk Co., Ltd.,	Jackson,	F. B. Crego.
Parma Butter Co.,	Parma,	Geo. D. Eggleston.

KALAMAZOO COUNTY.

Alamo Valley Creamery Co.,	Alamo,	M. F. Bachelder.
Climax Creamery Co.,	Climax,	F. L. Willison, Secy.
Riverside Creamery,	Galesburg,	F. O. Crossfield.
City Creamery,	Kalamazoo,	C. H. Barbour.
Highland Creamery Association,	Oshtemo,	S. W. Kendall.
Schoolcraft Creamery Co.,	Schoolcraft,	Geo. Gilchrist.
Lotus Creamery,	Vicksburg,	John Hamilton.

KENT COUNTY.

Alto Creamery,	Alto,	W. W. Eaton.
Byron Center Creamery Co.,	Byron Center,	A. G. Burwell.
Boyland Creamery,	Grand Rapids,	J. F. Boyland.
Rudell Creamery,	Grand Rapids,	C. E. Block.

LAPEER COUNTY.

Burnside Skimming Station,	Burnside,	A. E. Piper.
Hadley District Dairy Association,	Hadley,	Frank T. Hadley.
People's Creamery,	North Branch,	T. Stacey.
Otter Lake Creamery,	Otter Lake,	Wisconsin Butter & Cheese Co.

LENAWEE COUNTY.

Maple City Creamery,	Adrian,	M. H. Higby.
Locust Farm Creamery,	Adrian, R. No. 1,	A. B. Graham.
Birdsall Creamery,	Tecumseh,	E. Mott & Co.
Cadmus Creamery,	Cadmus,	L. McLouth & Son.
Clinton Creamery,	Tecumseh,	E. Mott & Co.
Holloway Creamery,	Tecumseh,	E. Mott & Co.
Hudson Creamery Co.,	Hudson,	H. E. Loyster.
Morenci Creamery,	Morenci,	Ohio Dairy Co.
Tecumseh Creamery,	Tecumseh,	E. Mott & Co.

MACOMB COUNTY.

Chesterfield Creamery Association,	Chesterfield,	C. T. Jordan, Jr.
Cady Skimming Station,	Cady,	Detroit Creamery Co.
Detroit Creamery Co.,	Mt. Clemens,	W. G. Harry, Treas.
New Baltimore Creamery Co.,	New Baltimore,	Chris. Schlosser.
New Haven Elgin Creamery Co.,	New Haven,	F. A. Luttenbacker.
Richmond Creamery,	Richmond,	G. M. Grennis.
Utica Skimming Station,	Utica,	Detroit Creamery Co.
Waldenburg Skimming Station,	Waldenburg,	Chesterfield Creamery Association.
Utica Co-operative Creamery Assn.,	Utica,	C. H. Firman.

MANISTEE COUNTY.

Bear Lake Creamery Co., Ltd.,	Bear Lake,	J. L. Bradford.

MENOMINEE COUNTY.

Daggett Creamery,	Daggett,	John Dunham.
Ingalls Co-operative Creamery Co.,	Ingalls,	Albert M. Larson.

MONROE COUNTY.

Azalia Creamery,	Azalia,	Milan Creamery Co.
Dundee Creamery,	Dundee,	Milan Creamery Co.
Excelsior Creamery Co.,	Ida,	John S. Knapp.
Milan Creamery,	Milan,	Milan Creamery Co.
Monroe Butter and Cheese Factory,	Monroe,	A. Vivian.
South Rockwood Butter and Cheese Co.,	South Rockwood,	John Strong & Son.
Steiner Butter and Fruit Co.,	Steiner,	Steiner Butter & Fruit Co.

MUSKEGON COUNTY.

Bailey Creamery,	Bailey,	J. S. English.
Dalton Creamery,	Muskegon,	E. J. Peterson.

NEWAYGO COUNTY.

Bishop Creamery Co.,	Newaygo,	John Dobbins.
Crystal Spring Creamery,	Fremont,	S. Hagadorn.
Grant Skimming Station,	Grant,	Rudell Creamery.
Reeman Co-operative Creamery Co.,	Reeman,	F. W. Reed.

OAKLAND COUNTY.

Clarenceville Creamery,	Clarenceville,	Towar's Wayne Co. Creamery.
Oxford Creamery,	Oxford,	E. L. Bailey.
Royal Oak Skimming Station,	Royal Oak,	Detroit Creamery Co.
Yates Skimming Station,	Yates,	Detroit Creamery Co.

OCEANA COUNTY.

White River Creamery,	Hesperia, Fremont,	S. Hagadorn.
Oceana Creamery,	Montague,	Conrad & Fuller.
Shelby and New Era Creamery Co.,	Shelby, R. No. 2,	Geo. C. Myers, Secy.

OSCEOLA COUNTY.

Evart Creamery,	Evart,	W. Vance.
Hersey Creamery,	Hersey, Clare,	E. Switzer.

OTTAWA COUNTY.

Allendale Creamery,	Allendale,	Mrs. E. C. Pierson.
Bauer Creamery Co.,	Bauer,	C. Behrens, Pres.
Borculo Creamery Co.,	Borculo,	H. Koop.
Crisp Creamery Co.,	Crisp,	W. Nienhuis.
Drenthe Co-operative Creamery,	Drenthe,	Henry Wever.
Co-operative Creamery Co.,	Coopersville,	Chas. H. Moore.
Holland Crystal Creamery,	Holland,	C. J. Lokker & Co.
Hudsonville Creamery Association, Ltd.,	Hudsonville,	C. H. Kelley.
South Ottawa Creamery Co.,	Zeeland, Holland,	C. J. Lokker & Co.

SAGINAW COUNTY.

Gera Creamery,	Gera,	Peter C. Mossner.
Freeland Creamery,	Freeland,	Chas. Dietiker.
Lawndale Skimming Station,	Lawndale,	Ed. Burger.
Orville Creamery,	Saginaw, R. No. 5,	Ezra Fry.

SANILAC COUNTY.

Brown City Creamery,	Brown City,	A. E. Piper.
Melvin Skimming Station,	Melvin,	A. E. Piper.
Marlette Creamery,	Marlette,	A. E. Piper.

SHIAWASSEE COUNTY.

E. F. Dudley Creamery,	Owosso,	E. F. Dudley.
Vernon Creamery,	Vernon,	P. E. Kirkham.

ST. CLAIR COUNTY.

St. Clair Creamery Co.,	Avoca,	J. F. Ruff.
Capac Creamery,	Capac,	A. E. Piper.
St. Clair Creamery Co.,	St. Clair,	J. F. Ruff.
Yale Creamery,	Yale,	E. B. Fuller.

ST. JOSEPH COUNTY.

Centerville Creamery Co., Ltd.,	Centerville,	R. M. Cauffman.
Mendon Creamery Co.,	Mendon,	S. Hoch.
Riverside Butter Co.,	Three Rivers,	D. A. Babcock, Jr.

TUSCOLA COUNTY.

Caro Elgin Butter Co.,	Caro,	W. H. Bechtel.
Reese Creamery,	Reese,	Henry Munger.
Unionville Creamery,	Unionville,	H. G. Spring, Secy.
Vassar Creamery,	Vassar,	Wm. C. McKenzie.

VAN BUREN COUNTY.

Berlamont Creamery,	Berlamont,	Chas. Linton.
Breedsville Creamery,	Breedsville,	N H. Adams.
Decatur Creamery Co.,	Decatur,	Martin Knoll.
Glendale Co-operative Creamery Co.,	Glendale,	M. J. Shered.
Gobleville Creamery Co.,	Gobleville,	J. Bishop.
Lawrence Co-operative Creamery Co.,	Lawrence,	Jesse W. Cobb, Secy.
Keeler Creamery Co.,	Keeler,	J. G. Lane, Treas.

WASHTENAW COUNTY.

Towar's Wayne County Creamery,	Chelsea, Detroit,	Towars' Wayne Co., Creamery.
Dexter Creamery,	Dexter,	Amerman Bros.
Manchester Creamery,	Manchester,	J. A. Lowery.
Saline Butter and Cheese Factory,	Saline, Ann Arbor,	I. E. Wood.
F. J. Fletcher & Co.,	Willis, Ypsilanti,	Chas. S. Ruthruff.
Ypsilanti Dairy Association,	Ypsilanti,	Ralph Rice.

WAYNE COUNTY.

Beech Creamery,	Beech, Detroit,	Towars' Wayne Co. Creamery.
Van Buren Creamery Co.,	Belleville,	Geo. E. Quick.
Dearborn Skimming Station,	Dearborn,	Detroit Creamery Co.
Denton Creamery,	Denton,	Towars' Wayne Co. Creamery.
Goldbrook Creamery,	Detroit, 277 Tilman Ave.,	Joseph Bour.
Detroit Creamery Co.,	Detroit, G'd River & Cass,	W. S. Harry.
F. D. Striker Creamery,	Detroit, 55 Russell St.,	F. D. Striker.
1494 Michigan Avenue,	Detroit,	Chas. Behling.
Elm Skimming Station,	Elm,	Detroit Creamery Co.
Flat Rock Skimming Station,	Flat Rock,	Detroit Creamery Co.
Hand Skimming Station,	Hand,	Detroit Creamery Co.
Inkster Skimming Station,	Inkster,	Detroit Creamery Co.
Inkster Milk Station,	Inkster,	Thos. Ellis.
Perrinsville Skimming Station,	Perrinsville,	Detroit Creamery Co.
Plymouth Creamery Co.,	Plymouth,	D. D. Allen.
Preston Skimming Station,	Preston,	Detroit Creamery Co.
Romulus Creamery,	Detroit,	Towars' Wayne Co. Creamery.
Sand Hill Creamery,	Detroit,	Towars' Wayne Co. Creamery.
Stark Skimming Station,	Stark,	Detroit Creamery Co.
851 Third Ave.,	Detroit,	R. B. Brown.

LAWS AND DECISIONS.

LAWS OF MICHIGAN

RELATIVE TO

INSPECTION AND ADULTERATION OF FOODS.

POWERS AND DUTIES OF THE COMMISSIONER.

AN ACT to provide for the appointment of a Dairy and Food Commissioner, and to define his powers and duties and fix his compensation.

(Act No. 211, Public Acts, 1893.)

The People of the State of Michigan enact:

1. (C. L., 4973) Section 1. That within thirty days after this act shall take effect, the Governor, by and with the consent of the Senate, shall appoint a suitable person to be Dairy and Food Commissioner, which office is hereby created, and which commissioner so appointed shall hold his office until the first day of January, one thousand eight hundred and ninety-five, and until his successor is appointed and qualified. At the next regular session of the legislature, and every two years thereafter, the Governor, by and with the advice and consent of the Senate, shall appoint a Dairy and Food Commissioner, who shall hold his office for the term of two years from the first day of January in the year of his appointment and until his successor is appointed and qualified.

2. (C. L., 4974) Sec. 2. The Governor shall have power to remove such commissioner at any time in his discretion; but the reasons for such removal shall be laid before the Senate at the next regular or special session of the legislature thereafter, and in case of vacancy in the office of commissioner from any cause, the Governor may appoint another person to fill the same.

3. (C. L., 4975) Sec. 3. Before entering upon the duties of his office, the person so appointed shall make, subscribe, and file in the office of the Secretary of State, an oath of office in the form prescribed by section one of article eighteen of the constitution of this State, and shall enter into bonds with the people of the State of Michigan in the sum of ten thousand dollars, with sureties to be approved by the Governor, conditioned for the faithful performance of his duties.

4. (C. L., 4976) Sec. 4. Said commissioner shall receive an annual salary of two thousand dollars. The said commissioner is hereby authorized and empowered by and with the advice and consent of the Governor to appoint a deputy commissioner. The salary of the deputy commis-

sioner shall be one thousand five hundred dollars per annum. The said commissioner may also appoint six inspectors whose pay per day for each inspector for the time actually employed shall not be to exceed three dollars. The persons so appointed shall have power to administer oaths in all matters relative to the dairy and food laws and shall take and subscribe the constitutional oath of office and file the same in the office of the Secretary of State, and they shall hold office during the pleasure of the commissioner. The inspectors shall have the same right of access to places to be inspected as the said commissioner or his deputy. The commissioner shall appoint such clerks as he may deem necessary for the transaction of the business of his office. The amount to be expended for such clerk hire shall not be to exceed two thousand dollars in any one year. The salaries and expenses authorized by this section shall be for the unexpired part of the fiscal year ending June thirtieth, nineteen hundred three, and each fiscal year thereafter, said salaries to be paid monthly, on the warrant of the Auditor General. The actual and necessary expenses of the commissioner. deputy, and inspectors in the performance of their official duties, shall be audited by the Board of State Auditors and paid upon the warrant of the Auditor General. Such compensations and expenses shall be certified, audited and paid in the same manner as salaries and expenses of similar officers. The deputy commissioner, and inspectors shall enter into bonds with the people of the State of Michigan in the sum of five thousand dollars each, with sureties to be approved by the commissioner, conditioned for the faithful performance of their respective duties. The Board of State Auditors shall provide office room and the necessary furniture and fixtures and the necessary stationery, supplies and printing for the conduct of the business of the said commissioner, on his application to the said board therefor. Said office shall be and remain in the City of Lansing.

Am. by Act No. 245, P. A. 1895. Am. by Act No. 154, P. A. 1897. Am. by Act No. 186, P. A. 1901. Am. by Act No. 230, P. A. 1903.

5. (C. L., 4977) Sec. 5. The commissioner by and with the consent of the Governor shall appoint a suitable and competent person as State Analyst, who shall be a practical analytical chemist. The commissioner in like manner, may appoint an Assistant State Analyst. Before entering upon the duties of their office they shall take, subscribe and file in the office of the Secretary of State the constitutional oath of office. Their term of office shall continue during the pleasure of the commissioner. The Board of State Auditors shall provide a room in connection with the Dairy and Food Commissioner for the laboratory of the State Analyst and his assistant, and the necessary furniture and fixtures therefor. In case of the absence or inability of the State Analyst or his assistant to perform their duty, the commisioner may appoint some competent person to perform the same temporarily, which person shall take, subscribe and file the constitutional oath of office. The salaries and expenses authorized by this section shall be for the unexpired part of the fiscal year ending June thirtieth, nineteen hundred three, and each fiscal year thereafter. said salaries to be payable monthly on the warrant of the Auditor General. The salary of the chemist shall be eighteen hundred dollars; the salary of the assistant chemist shall be one thousand dollars. The actual and necessary expenses of the chemist and the assistant chemist, in the performance of their official duties, shall be audited by the Board

of State Auditors and paid upon the warrant of the Auditor General. An amount not exceeding five hundred dollars may be expended for the necessary chemical supplies. Such compensation, expenses and supplies shall be certified, audited and paid in the same manner as the salaries, expenses and supplies of similar officers.

Am. by Act No. 245, P. A. 1895. Am. by Act No. 154, P. A. 1897. Am. by Act No. 186, P. A. 1901. Am. by Act No. 230, P. A. 1903.

6.. (C. L., 4978) Sec. 6. It shall be the duty of the Dairy and Food Commissioner to carefully inquire into the quality of the dairy and food and drink products, and the several articles which are foods or the necessary constituents of foods, which are manufactured or sold or exposed or offered for sale in this State, and he may in a lawful manner procure samples of the same and direct the State Analyst to make due and careful examination of the same, and report to the commissioner the result of the analysis of all or any of such food and drink products, or dairy products, as is adulterated, impure or unwholesome, in contravention of the laws of this State, and it shall be the duty of the commissioner to make complaint against the manufacturer or vender thereof, in the proper county, and furnish the evidence thereon and thereof to obtain a conviction of the offense charged. The Dairy and Food Commissioner. or his deputy, or any person by him duly appointed for that purpose, may make complaint and cause proceedings to be commenced against any person for the violation of any of the laws relative to adulterated, impure or unwholesome food, and in such case he shall not be obliged to furnish security for costs; and shall have power in the performance of their duties to enter into any creamery, factory, store, salesroom, drug store or laboratory, or place where they have reason to believe food or drink are made, prepared, sold or offered for sale, and to open any cask, tub, jar, bottle or package containing or supposed to contain any article of food or drink and examine or cause to be examined the contents thereof, and take therefrom samples for analysis. The person making such inspection shall take such sample of such article or product, in the presence of at least one witness, and he shall in the presence of such witness mark or seal such sample and shall tender at the time of taking to the manufacturer or vender of such product. or to the person having the custody of the same, the value thereof, and a statement in writing of the reasons for taking such sample.

Am. by Act No. 245, P. A. 1895. Am. by Act No. 154, P. A. 1897. Am. by Act No. 268, P. A. 1899.

7. (C. L., 4979) Sec. 7. The commissioner, his deputy or any person by said commissioner duly appointed for that purpose, is authorized at all times to seize and take possession of any and all food and dairy products, substitutes therefor. or imitation thereof kept for sale, exposed for sale or held in possession or under the control of any person which in the opinion of the said commissioner, or his deputy or such person by him duly appointed, shall be contrary to the provisions of this act or other laws which now exist or which may be hereafter enacted.

First, The person so making such seizure as aforesaid, shall take from such goods as seized a sample for the purpose of analysis and shall cause the remainder thereof to be boxed and sealed and shall leave the same in the possession of the person from whom they were seized, subject to such disposition as shall hereafter be made thereof according to the provisions of this act.

Second, The person so making such seizure, shall forward the sample so taken to the State Analyst for analysis, who shall make an analysis of the same and shall certify the results of such analysis, which certificate shall be prima facie evidence of the fact or facts therein certified to in any court where the same may be offered in evidence.

Third, If upon such analysis it shall appear that said food or dairy products are adulterated, substitutes or imitations within the meaning of this act. said commissioner, or his deputy or any person by him duly authorized may make complaint before any justice of the peace or police justice having jurisdiction in the city, village or township where such goods were seized, and thereupon said justice of the peace shall issue his summons to the person from whom said goods were seized, directing him to appear not less than six nor more than twelve days from the date of the issuing of said summons and show cause why said goods should not be condemned and disposed of. If the said person from whom said goods were seized cannot be found said summons shall be served upon the person then in possession of the goods. The said summons shall be served at least six days before the time of appearance mentioned therein. If the person from whom said goods were seized cannot be found, and no one can be found in possession of said goods, and the defendant shall not appear on the return day, then said justice of the peace shall proceed in said cause in the same manner provided by law where a writ of attachment is returned not personally served upon any of the defendants and none of the defendants shall appear upon the return day.

Fourth, Unless cause to the contrary thereof is shown, or if said goods shall be found upon trial to be in violation of any of the provisions of this act or other laws which now exist or which may be hereafter enacted. it shall be the duty of said justice of the peace or police justice to render judgment that said seized property be forfeited to the State of Michigan, and that the said goods be destroyed or sold by the said commissioner for any purpose other than to be used for food. The mode of procedure before said justice shall be the same, as near as may be as in civil proceedings before justices of the peace. Either parties may appeal to the circuit court as appeals are taken from justices' courts, but it shall not be necessary for the people to give any appeal bond.

Fifth, The proceeds arising from any such sale shall be paid into the State treasury and credited to the general fund: *Provided*. That if the owner or party claiming the property or goods so declared forfeited can produce and prove a written guaranty of purity, signed by the wholesaler, jobber, manufacturer or other party from whom said articles were purchased. then the proceeds of the sale of such articles, over and above the costs of seizure, forfeiture, and sale, shall be paid over to such owner or claimant to reimburse him, to the extent of such surplus, for his actual loss resulting from such seizure and forfeiture, as shown by the invoice.

Sixth, It shall be the duty of each prosecuting attorney when called upon by said commissioners or by any person by him authorized as aforesaid, to render any legal assistance in his power in proceedings under the provisions of this act, or any subsequent act relative to the adulteration of food, for the sale of impure or unwholesome food or food products.

Am. by Act No. 245. P. A. 1895. Am. by Act No. 268. P. A. 1899. Am. by Act No. 230. P. A. 1903.

8. (C. L., 4980) Sec. 8. It shall be unlawful for the State Analyst, while he holds his office to furnish to any individual, firm or corporation, any certificate as to the purity or excellence of any article manufactured or sold by them to be used as food or in the preparation of food.

9. (C. L., 4981) Sec. 9. The commissioner shall make an annual report to the Governor on or before the first day of July in each year, and which shall be printed and published on or before the first day of September next thereafter, which report shall cover the doings of his office for the preceding fiscal year, which shall show, among other things, the number of manufactories and other places inspected and by whom, the number of specimens of food articles analyzed, and the State Analyst's report upon each one; the number of complaints entered against persons for violation of the laws relative to the adulteration of food, the number of convictions had, and the amount of fines imposed therefor, together with such recommendations relative to the statutes in force as his experience may justify. The commissioner shall also prepare, print and distribute to all the papers of the State, and to such persons as may be interested or may apply therefor, a monthly bulletin, in suitable paper covers, containing results of inspections, the results of analyses made by the State Analyst, with popular explanation of the same, and such other information as may come to him in his official capacity relating to the adulteration of food and drink products and of dairy products, so far as he may deem the same of benefit and advantage to the public; also a brief summary of all the work done during the month by the commissioner and his assistants in the enforcement of the laws of the State, but not more than ten thousand copies of each such monthly bulletin shall be printed.

Am. by Act No. 245, P. A. 1895. Am. by Act No. 154, P. A. 1897. Am. by Act No. 268, P. A. 1899.

10. (C. L., 4982) Sec. 10. Any person who shall wilfully hinder or obstruct the Dairy and Food Commissioner, or his deputy or other person or inspector by him duly authorized, in the exercise of the powers conferred upon him by this act, shall be deemed guilty of a misdemeanor, and on conviction shall be punished by a fine of not less than ten dollars nor more than one hundred dollars, or by imprisonment in the county jail for not less than ten days nor more than ninety days, or both such fine and imprisonment in the discretion of the court.

Added by Act No. 245, P. A. 1895.

11. (C. L., 4983 Sec. 11. The sum of twenty-six thousand five hundred dollars is hereby appropriated for the fiscal year ending June thirtieth, nineteen hundred two, fifteen hundred dollars of which is appropriated to meet a deficiency in the appropriation for the fiscal year ending June thirtieth, nineteen hundred one. For the fiscal year ending June thirtieth, nineteen hundred three, and each fiscal year thereafter, there is hereby appropriated the sum of twenty-five thousand dollars. Out of the amounts appropriated by this act shall be paid all salaries and expenses and chemical supplies provided for therein: *Provided,* That all expenses for stationery and printing shall be audited and paid in the same manner as other State printing and stationery.

Added by Act No. 245, P. A. 1895. Am. by Act No. 154, P. A. 1897. Am. by Act No. 268, P. A. 1899. Am. by Act No. 186, P. A. 1901.

12. (C. L., 4984) Sec. 12. The Auditor General is hereby directed to annually add to and incorporate into the State tax to be levied each year the sum of twenty-five thousand dollars, which when collected shall be credited to the general fund to reimburse the same for the money appropriated by this act.

Added by Act No. 245, P. A. 1895. Am. by Act No. 154, P. A. 1897. Am. by Act No. 268, P. A. 1899. Am. by Act No. 186, P. A. 1901. Am. by Act No. 233 P. A. 1903.

AN ACT in relation to the powers and duties of the Dairy and Food Commissioner of the State of Michigan.

(Act No. 167, Public Acts, 1899.)

The People of the State of Michigan enact:

13. Section 1. That any person who shall obstruct the Dairy and Food Commissioner, or his deputy, or any of his duly appointed inspectors, by refusing to allow him entrance to any place where he is authorized to enter in the discharge of his official duty, or refuses to deliver to him a sufficient sample for the analysis of any article of food or drink sold, offered or exposed for sale, or in his possession for the purpose of sale, wherever the same may be found, when the same is requested and when the value thereof is tendered shall be guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than twenty-five dollars or more than one hundred dollars and the costs of prosecution, or by imprisonment in the county jail not less than ten days or more than ninety days, or by both such fine and imprisonment in the discretion of the court, for each and every offense.

This act is ordered to take immediate effect.

AN ACT for the prevention and suppression of foul brood among bees in the State of Michigan, and the inspection thereof, and to make an appropriation therefor, and to repeal act number one hundred forty-one of the public acts of eighteen hundred eighty-one, being sections fifty-six hundred sixty-three, fifty-six hundred sixty-four, fifty-six hundred sixty-five, fifty-six hundred sixty-six, fifty-six hundred sixty-seven, fifty-six hundred sixty-eight, fifty-six hundred sixty-nine and fifty-six hundred seventy of the compiled laws of eighteen hundred ninety-seven.

(Act No. 66, Public Acts, 1901.)

The People of the State of Michigan enact:

14. Section 1. The Dairy and Food Commissioner upon receipt of a certified copy of the record of the Michigan State Bee-keepers' Association, by the secretary of said association, showing that a majority of the members of said association recommended the appointment of an inspec-

tor of apiaries, shall appoint a State inspector of apiaries. Said inspector shall be responsible to the Dairy and Food Commissioner and shall comply with such rules and regulations as the Dairy and Food Commissioner shall from time to time prescribe for the carrying out of the work of said State inspector.

15. Sec. 2. The Dairy and Food Commissioner shall, when notified in writing by the owner of an apiary or by three disinterested taxpayers in the vicinity of the apiary, cause the inspector to examine such apiaries as are reported and all others in the same locality not reported, and ascertain whether or not the disease known as foul brood or other contagious disease exists in such apiaries, and if satisfied of the existence of foul brood, he shall give the owner or caretaker of the diseased apiaries full instructions how to treat said case as in the inspector's judgment seems best.

16. Sec. 3. The inspector who shall be the sole judge may visit all diseased apairies a second time and if need be burn all colonies of bees and combs that may be found not cured of foul brood or other contagious diseases.

17. Sec. 4. If the owner of a diseased apiary, honey or appliances shall knowingly or wilfully sell, barter or give away any bees, honey or appliances, or expose other bees to the danger of said disease or refuse to allow said inspector to inspect such apiary, honey or appliances, said owner shall on conviction before a justice of the peace. be liable to a fine of not less than fifty dollars nor more than one hundred dollars, or not less than one month's imprisonment in the county jail, nor more than two month's imprisonment.

18. Sec. 5. In addition to such individual reports as are required under this act by the inspector of apiaries, he shall make an annual report to the Dairy and Food Commissioner, giving the number of the apiaries visited, the number of diseased apiaries found, the number of colonies treated, also the number of colonies destroyed by fire, and an itemized account of his transportation expenses with affidavit annexed thereto.

19. Sec. 6. There is hereby appropriated out of any moneys in the State treasury not otherwise appropriated a sum not exceeding five hundred dollars per year for the suppression of foul brood among the bees in Michigan. The inspector shall receive three dollars per day and actual transportation expenses for actual time served, which sum shall not exceed the money hereby appropriated, to be paid by the State Treasurer upon warrants drawn by the Auditor General and approved by the Dairy and Food Commissioner.

20. Sec. 7. Act number one hundred forty-one of the public acts of eighteen hundred eighty-one. being section fifty-six hundred sixty-three, fifty-six hundred sixty-four, fifty-six hundred sixty-five, fifty-six hundred sixty-six, fifty-six hundred sixty-seven, fifty-six hundred sixty-eight, fifty-six hundred sixty-nine and fifty-six hundred seventy of the compiled laws of eighteen hundred ninety-seven is hereby repealed.

This act is ordered to take immediate effect.

GENERAL FOOD LAW.

AN ACT to prohibit and prevent adulteration, fraud and deception in the manufacture, and sale of articles of food and drink.

(Act No. 193, Public Acts, 1895.)

The People of the State of Michigan enact:

21. (C. L., 5010) Section 1. That no person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food which is adulterated within the meaning of this act.

Am. by Act No. 118, P. A. 1897.

22. (C. L., 5011) Sec. 2. The term food, as used herein, shall include all articles used for food or drink, or intended to be eaten or drank by man, whether simple, mixed or compound.

23. (C. L., 5012) Sec. 3. An article shall be deemed to be adulterated within the meaning of this act: *First,* If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity; *Second,* If any inferior or cheaper substance or substances have been substituted wholly or in part for it; *Third,* If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it; *Fourth,* If it is an imitation of, or is sold under the name of another article; *Fifth,* If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal; *Sixth,* If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is; *Seventh,* If it contains any added substance or ingredient, which is poisonous or injurious to health: *Provided,* That nothing in this act shall prevent the coloring of pure butter: *And provided further,* That the provisions of this act shall not apply to mixtures or compounds recognized as ordinary articles or ingredients of articles of food, if each and every package sold or offered for sale bear the name and address of the manufacturer and be distinctly labeled under its own distinctive name, and in a manner so as to plainly and correctly show that it is a mixture or compound, and is not in violation with definition fourth and seventh of this section.

Am. by Act No. 118, P. A. 1897.

24. (C. L., 5013) Sec. 4. No person by himself or his agents or servants, shall manufacture for sale or offer or expose for sale, or sell, as butter, and the legitimate product of the dairy or creamery, any article

not made exclusively of milk or cream, but into which the oil or fat of animals, or any other oils not produced from milk, enters as a component part, has been introduced to take the place of cream. Whoever violates the provisions of this section shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than fifty nor more than five hundred dollars, and the costs of prosecution, or by imprisonment in the county jail, or the State House of Correction and Reformatory at Ionia for not less than ninety days nor more than two years, or by both such fine and imprisonment in the discretion of the court for each and every offense.

25. (C. L., 5014) Sec. 5. No person shall manufacture, deal in, sell, offer or expose for sale or exchange, any article or substance in the semblance of, or in imitation of cheese made exclusively of unadulterated milk or cream, or both, into which any animal, intestinal or offal fats or oils or melted butter in any condition or state or modification of the same, or oleaginous substances of any kind not produced from unadulterated milk or cream shall have been introduced. Whoever shall violate the provisions of this section shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than fifty nor more than five hundred dollars and the costs of prosecution, or by imprisonment in the county jail or the State House of Correction and Reformatory at Ionia for not less than ninety days nor more than two years, or by both such fine and imprisonment in the discretion of the court for each and every offense.

26. (C. L., 5015) Sec. 6. Every manufacturer of full milk cheese may put a brand upon each cheese, indicating "Full milk cheese," and no person shall use such a brand upon any cheese made from milk from which any of the cream has been taken. It shall be the duty of the proprietor of every cheese factory, creamery or butter factory in the State where milk or cream is purchased of or contributed by three or more persons, to register the location of such cheese factory, creamery or butter factory and the name of its owner or manager with the Dairy and Food Commissioner on or before the first day of October, A. D. eighteen hundred ninety-seven, and on or before the first day of April in each year thereafter. Whoever violates any of the provisions of this section, in so far as it relates to registration, shall be deemed guilty of a misdemeanor, and for each and every offense shall be punished by a fine of not less than five dollars nor more than twenty-five dollars and the costs of prosecution, or by imprisonment in the county jail for not more than thirty days or both.

Am. by Act No. 118, P. A. 1897.

27. (C. L., 5016) Sec. 7. The Dairy and Food Commissioner shall procure and issue to the cheese manufacturers of the State, on proper application, which application shall be made on or before the first day of October, A. D. eighteen hundred ninety-five, and on or before the first day of April in each year thereafter, and under such regulation as to the custody and use thereof as he may prescribe, a uniform stencil brand, bearing a suitable device or motto and the words "Michigan full cream cheese." Every such brand shall be used on the outside of the cheese, and upon the package containing the same, and shall bear a separate number for each separate factory. The said commissioner shall keep a book in which shall be registered the name, location and number of each

manufactory using the brand, and the name or names of persons at each factory authorized to use the same. No such brand shall be used on other than full cream cheese or packages containing the same. The commissioner shall receive a fee of one dollar for each registration, said fee to be paid by the party applying for the same, which amount shall be accounted for and used as a part of the fund appropriated for the enforcement of the laws of this State, with which the Dairy and Food Commissioner is charged.

28. (C. L., 5017) Sec. 8. No person shall knowingly offer, sell or expose for sale, in any package cheese which is falsely branded or labeled.

29. (C. L., 5018) Sec. 9. No person shall within this State manufacture for sale. have in his possession with intent to sell, offer or expose for sale, or sell as lard, any substance not the legitimate and exclusive product of the fat of the hog.

30. (C. L., 5019) Sec. 10. Every person who manufactures for sale, has in his possession wth intent to sell, offers or exposes for sale, or sells, any substance made in the semblance of lard, or as an imitation of lard, and which consists of any mixture or compound of animal or vegetable oils, or fats, other than hog fat, in the form of lard. shall cause the tierce, barrel, tub, pail or package containing the same to be distinctly and legibly branded or labeled "Lard substitute or compound," and every person who manufactures for sale, has in his possession with intent to sell, offers or exposes for sale or sells, any substance made in the semblance of lard or as an imitation of lard, or as a substitute for lard, and which is designed to take the place of lard, and which consists of any mixture or compound of lard with animal or vegetable oils or fats, shall cause the tierce, barrel, tub. pail or package containing the same to be distinctly and legibly branded or labeled either "Adulterated lard," "Lard compound" or "Lard substitute." Such brands or labels shall be in letters not less than one inch in length and shall be followed with the name of the maker and factory, and the location of such factory.

31. (C. L., 5020) Sec. 11. Every dealer or trader who, by himself or agent, or as the servant or agent of another person, offers or exposes for sale, or sells any form of lard substitute or adulterated lard, as hereinbefore defined, shall securely affix or cause to be affixed to the package wherein the same is contained, offered for sale or sold, a label, upon the outside and face of which is distinctly and legibly printed in letters not less than one-half inch in length, the words "Lard substitute" or "Adulterated lard" or "Lard compound," or other appropriate word which shall correctly express its nature and use.

32. (C. L.. 5021) Sec. 12. The having in possession of any lard substitute or adulterated lard or lard compound, as hereinbefore defined, which is not branded or labeled as hereinbefore required and directed, upon the part of any dealer or trader, or any person engaged in the public sale of such articles, shall for the purpose of the act be deemed *prima facie* evidence of intent to sell the same.

33. (C. L., 5022) Sec. 13. No person, firm or corporation in this State shall manufacture for sale, or sell, or offer or expose for sale, as fruit jelly, or fruit butter, any jelly or imitation fruit butter or other similar compound made or composed in whole or in part of glucose, dextrine, starch or other substances, and colored in imitation of fruit jelly or fruit butter; nor shall any such jelly, fruit butter or compound be manufactured, or sold. or offered for sale, under any name or designation what-

ever, unless the same shall be composed entirely of ingredients not injurious to health, and shall not be colored in imitation of fruit jelly, and every can, pail or package of such jelly or butter sold in this State shall be distinctly and durably labeled "Imitation fruit jelly or butter," with the name of the manufacturer and the place where made. Whoever violates the provisions of this section shall be deemed guilty of a misdemeanor, and when convicted thereof shall be punished by a fine of not less than fifty nor more than five hundred dollars, or by imprisonment in the county jail or State House of Correction and Reformatory at Ionia for not less than ninety days nor more than two years, or by both such fine and imprisonment in the discretion of the court.

34. (C. L., 5023) Sec. 14. No packer or dealer in preserved or canned fruits and vegetables, or other articles of food, shall sell or offer for sale such canned articles, unless such articles shall be entirely free from substances or ingredients deleterious to health, and unless such articles bear a mark, stamp, brand or label bearing the name and address of the firm. person or corporation that packs the same. All "Soaked or bleached goods," or goods put up from products dried before canning, shall be plainly marked, branded, stamped or labeled as such, with the words "Soaked or bleached goods," in letters not less than two-line pica in size. showing the name of the article and the name and address of the packer.

35. (C. L., 5024) Sec. 15. No person shall manufacture or sell, or offer for sale any manufactured or artificial coffee berry in imitation of the genuine berry. No person shall manufacture, sell or offer or expose for sale any ground or prepared coffee, which is adulterated with chicory or other substance not injurious to health, unless each package thereof shall be distinctly labeled or marked "Coffee compound," together with the name and address of the manufacturer or compounder thereof, and has no other label of whatever name or designation. No person shall offer or expose for sale, have in his possession with intent to sell, or sell any molasses. syrup or glucose, unless the barrel, cask, keg, can or pail containing the same shall be distinctly branded or labeled with the true and appropriate name; nor shall any person offer or expose for sale, have in his possession with intent to sell, or sell any molasses or syrup mixed with glucose, unless the barrel, cask, keg or pail containing the same be distinctly branded or labeled "Glucose mixture," and the per cent in which glucose enters into its composition. Such barrel, cask, keg, or pail shall be branded or labeled in a conspicuous place; and such brands or labels shall be in letters of not less than one-half inch in length. Glucose and glucose mixtures shall have no other designation than herein required.

Am. by Act No. 118, P. A. 1897.

36. (C. L., 5025) Sec. 16. No person shall within this State manufacture, brew, distil, have or offer for sale, or sell, any spirituous or fermented or malt liquors containing any substance or ingredient not normal or healthful, to exist in spirituous, fermented or malt liquors, or which may be deleterious or detrimental to health when such liquors are used as a beverage.

37. (C. L., 5026) Sec. 17. The taking of orders or the making of agreements or contracts, by any person, firm or corporation, or by any agent or representative thereof, for the future delivery of any of the

articles, products, goods, wares or merchandise embraced within the provisions of this act, shall be deemed a sale within the meaning of this act.

38. (C. L., 5027) Sec. 18. Whoever shall falsely brand, mark, stencil or label any article or product required by this act to be branded, marked, stenciled or labeled, or shall remove, alter, deface, mutilate, obliterate, imitate or counterfeit any brand, mark, stencil or label so required, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than one hundred nor more than one thousand dollars and the costs of prosecution, or by imprisonment in the county jail or State House of Correction and Reformatory at Ionia, for not less than six months nor more than three years, or by both such fine and imprisonment in the discretion of the court for each and every offense.

39. (C. L., 5028) Sec. 19. Whoever shall do any of the acts or things prohibited, or wilfully neglect or refuse to do any of the acts or things enjoined by this act, or in any way violate any of its provisions, shall be deemed guilty of a misdemeanor. and where no specific penalty is prescribed by this act shall be punished by a fine of not less than twenty-five nor more than five hundred dollars, or by imprisonment in the county jail for a period of not more than ninety days, or by both such fine and imprisonment, in the discretion of the court.

Am. by Act No. 117, P. A. 1899.

40. (C. L., 5029) Sec. 20. It shall be the duty of the Dairy and Food Commissioner of the State to investigate all complaints of violations of this act, and take all steps necessary to its enforcement. It shall be the duty of all prosecuting officers of this State to prosecute to completion all suits brought under the provisions of this act upon the complaint of the commissioner or of any citizen. It shall be the duty of all food inspectors in cities to examine all complaints made to them of violation of this act, and to render assistance in enforcing its provisions. It shall also be the duty of all health boards in cities and health officers in townships to take cognizance of and report or prosecute all violations of this act that may be brought to their notice, or they may have cognizance of, within their jurisdiction.

41. Sec. 21. All acts and parts of acts inconsistent with this act are hereby repealed.

BUCKWHEAT FLOUR.

AN ACT in relation to the manufacture and sale of buckwheat flour.

(Act No. 208, Public Acts, 1903.)

The People of the State of Michigan enact:

42. Section 1. Within this State no person shall manufacture, offer or expose for sale, keep in possession with intent to sell, or sell any ground buckwheat containing any product of wheat, corn, rice or other foreign substance, unless each and every package thereof be distinctly and legibly

branded or labeled "Buckwheat Flour Compound" in letters not less than one-half inch in length, and be followed with the name of the maker and factory and the location of such factory.

43. Sec. 2. Any brand or label herein required shall be an inseparable part of the general or distinguishing label, and such label shall be that principal and conspicuous sign under which it is sold, and any other label or printed matter upon the package shall not be in contravention of the requirements of this act.

44. Sec. 3. The having in possession of any buckwheat flour compound, which is not branded or labeled as hereinbefore required and directed upon the part of any person engaged in the public or private sale of such article, shall, for the purpose of this act, be deemed *prima facie* evidence of intent to sell the same.

45. Sec. 4. The taking of orders or the making of agreements or contract by any person, firm or corporation or by any agent or representative thereof, for the future delivery of buckwheat flour compound shall be deemed a sale within the meaning of this act.

46. Sec. 5. Whoever shall do any of the acts or things prohibited, or neglect or refuse to do any of the acts or things enjoined by this act, or in any way violate any of the provisions, shall be deemed guilty of a misdemeanor, and shall be punished by a fine not less than twenty-five dollars nor more than one hundred dollars, or by imprisonment in the county jail for a period of not less than thirty nor more than ninety days, or by both such fine and imprisonment in the discretion of the court.

47. Sec. 6. Act number eighty-four of the public acts of eighteen hundred ninety-seven, entitled "An act to prohibit and prevent adulteration, fraud and deception in the manufacture and sale of buckwheat flour," being sections four thousand nine hundred ninety-four to five thousand two, both inclusive, of the Compiled Laws of one thousand eight hundred ninety-seven is hereby repealed.

VINEGAR.

AN ACT in relation to the manufacture and sale of vinegar, and to repeal act number two hundred and twenty-four of the public acts of eighteen hundred and eighty-nine, approved July one, eighteen hundred and eighty-nine.

(Act No. 71, Public Acts, 1897.)

The People of the State of Michigan enact:

48. (C. L., 5003) Section 1. That no person shall manufacture for sale, offer or expose for sale, sell or deliver, or have in his possession with intent to sell or deliver, any vinegar not in compliance with the provisions of this act. No vinegar shall be sold as apple, orchard or cider vinegar, which is not the legitimate product of pure apple juice, known as apple cider or vinegar, not made exclusively of said apple cider or vinegar into which foreign substance, drugs or acids have been introduced, as may

appear upon proper test, and upon said test, shall contain not less than one and three-fourths per cent, by weight, of cider vinegar solids upon full evaporation at the temperature of boiling water.

49. (C. L., 5004) Sec. 2. All vinegar made by fermentation and oxidation without the intervention of distillation shall be branded "fermented vinegar," with the name of the fruit or substance from which the same is made. And all vinegar made wholly or in part from distilled liquor shall be branded "distilled vinegar," and all of such distilled vinegar shall be free from coloring matter added during or after distillation and from color other than that imparted to it by distillation. And all fermented vinegar not distilled shall contain not less than one and three-fourths per cent, by weight, upon full evaporation (at the temperature of boiling water) of solids, contained in the fruit or grain from which said vinegar is fermented, and said vinegar shall contain not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. And all vinegar shall be made wholly from the fruit or grain from which it purports to be or is represented to be made, and shall contain no foreign substance, and shall contain not less than four per cent, by weight, of absolute acetic acid.

50. (C. L., 5005) Sec. 3. No person shall manufacture for sale, offer for sale, or have in his possession with intent to sell, any vinegar found upon proper test to contain any preparation of lead, copper, sulphuric or other mineral acid, or other ingredients injurious to health. And all packages containing vinegar shall be marked, stenciled or branded on the head of the cask, barrel or keg containing such vinegar with the name and residence of the manufacturer together with brand required in section two hereof.

51. (C. L., 5006) Sec. 4. Whoever violates any of the provisions of this act shall, upon conviction, be fined not less than fifty dollars nor more than one hundred dollars, or imprisonment in the county jail not to exceed ninety days and the costs of prosecution, or by both such fine and imprisonment in the discretion of the court.

52. Sec. 5. All acts and parts of acts contravening the provisions of this act are hereby repealed.

MILK.

AN ACT to prevent and punish offenders for the adulteration of milk, and the products made therefrom, and to repeal an act entitled "An act to prevent the adulteration of milk and to prevent the traffic in impure and unwholesome milk," approved March thirty-first, eighteen hundred and seventy-one.

(Act No. 26, Public Acts, 1873.)

The People of the State of Michigan enact:

53. (C. L., 11411) Section 1. That whoever shall knowingly sell to any person or persons or sell, deliver, or bring to be manufactured to any cheese or butter manufactory in this State, any milk diluted with

water, or in any way adulterated, or milk from which any cream has been taken, or milk commonly known as "skimmed milk," or shall keep back any part of the milk known as "strippings," with intent to defraud, or shall knowingly sell milk, the product of a sick or diseased animal or animals, or any milk produced from any cow fed upon the refuse of a distillery, or of a brewery, or upon any substance deleterious to the quality of the milk, or shall knowingly use any poisonous or any deleterious material in the manufacture of any cheese or butter, or shall knowingly sell, or offer to sell any cheese or butter, in the manufacture of which any poisonous or deleterious substance has been used, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be fined not less than ten dollars nor more than one hundred dollars; and may be committed to the county jail until such fine shall be paid: *Provided,* That such imprisonment shall not exceed ninety days; and shall be liable in double the amount of damages to the person or persons, firm, association, or corporation upon which such fraud shall have been committed. An act entitled "An act to prevent the adulteration of milk and to prevent the traffic in impure and unwholesome milk," approved March thirty-first, eighteen hundred and seventy-one, is hereby repealed: *Provided,* That any right accrued or forfeiture incurred under said act, shall remain valid and binding, and may be enforced under said act as if the same were not repealed.

AN ACT to prevent the sale of impure, unwholesome, adulterated, or swill milk in the State of Michigan, and to provide for inspectors.

(Act No. 246, Public Acts, 1887.)

The People of the State of Michigan enact:

54. (C. L., 11412) Section 1. That it shall be unlawful for any person, either by himself or agent, to sell or expose for sale within the State of Michigan any unwholesome, watered, or adulterated or impure milk or swill milk or colostrum, or milk from cows kept upon garbage, swill or any substance in a state of fermentation or putrefaction or other deleterious substances, or from cows kept in connection with any family in which there are infectious diseases. The addition of water or ice to the milk is hereby declared an adulteration.

Am. by Act No. 219, P. A. 1889.

55. (C. L., 11413) Sec. 2. Any person who shall violate any of the provisions of the preceding section shall be punished by a fine not to exceed one hundred dollars or (by) imprisonment not to exceed three months or by both such fine and imprisonment, in the discretion of the court.

56. (C. L., 11414) Sec. 3. It shall be the duty of the metropolitan police commissioners of the city of Detroit, by and with the consent and advice of the board of health of the city of Detroit, to appoint an inspector, who shall be a person of previous practical experience. Said inspector may be created captain, sergeant or roundsman of the said

police force of the city of Detroit, at the option of the board of metropolitan police commissioners.

57. (C. L., 11415) Sec. 4. It shall be the duty of said inspector to personally view, so far as possible, all milk exposed for sale in said city, and to visit all dairy houses, barns, or stables in said city or the county of Wayne, to inspect the same, and the animals held therein, and to visit all places where milk is kept or exposed for sale in the city of Detroit, and to inspect and ascertain the condition of said milk. He may detail any patrolman of said city to assist him in the performance of any or all of the duties enjoined on him by this act: *Provided, always,* That said inspector and any policeman so detailed shall always be subject to the provisions of the law establishing and governing the metropolitan police of said city.

58. (C. L., 11416) Sec. 5. It shall be the duty of said inspector or of his assistant, and of all other inspectors appointed under this act, to make complaint in writing before a police justice or justice of the peace, or other court having jurisdiction thereof, of every violation of this act coming to his knowledge.

Am. by Act No. 219, P. A. 1889.

59. (C. L., 11417) Sec. 6. Each and every quantity of milk sold or exposed for sale contrary to the provisions of this act, shall constitute a separate offense.

60. (C. L., 11418) Sec. 7. Any person who shall refuse to permit the said inspector, or his assistant (assistants), to perform his duty under this act, either by refusing him entrance to his premises or by concealing any milk, or refusing to permit any milk or animal or premises wherein animals are kept, to be viewed and inspected as herein provided, or by in any manner hindering or resisting any said inspector or assistant inspector in the performance of his duty, shall be guilty of a misdemeanor, and punished therefor.

61. (C. L., 11419) Sec. 8. Authority is hereby given the common council of any city, and the board of trustees or council of any village, to appoint an inspector of milk in any such city or village, and to fix their compensation, and when appointed the said inspectors of milk shall have all the powers given by section four of this act, and shall perform all the duties required of inspectors of milk as provided herein, and such other powers and duties as may be conferred or imposed by the ordinances of said cities or villages.

62. (C. L., 11420) Sec. 9. Whoever shall adulterate by himself, or by his servant or agent, or sell, exchange or deliver, or have in his custody or possession with intent to sell or exchange the same, or exposes or offers for sale or exchange, adulterated milk or milk to which water or any foreign (substance) substances in any state of fermentation or putrefaction, or from sick or diseased cows, shall be guilty of a misdemeanor, and shall, for every such offense, be punished by a fine not exceeding one hundred dollars or by imprisonment in the county jail or the State House of Correction and Reformatory at Ionia not exceeding three months.

Added by Act No. 219, P. A. 1889.

63. (C. L., 11421) Sec. 10. Whoever shall adulterate, himself, or by his servant or agent, sell, exchange or deliver, or have in his custody or possession with intent to sell or exchange the same, or exposes or offers

for sale as pure milk any skimmed milk from which the cream or any part thereof has been removed shall be guilty of a misdemeanor, and shall, for such offense, be punished by the penalty provided in the preceding section.

Added by Act No. 219, P. A. 1889.

64. (C. L., 11422) Sec. 11. Any dealer in milk who shall by himself. servant or agent, sell, exchange or deliver, or have in his custody or possession with intent to sell, exchange or deliver the same, milk from which the cream or any part thereof has been removed, unless in a conspicuous place above the center upon the outside of every vessel. can or package from which any such milk is sold, the words "Skimmed Milk" are distinctly painted in letters not less than one inch in length, shall be guilty of a misdemeanor and shall be punished by a fine not exceeding one hundred dollars or by imprisonment in the county jail or Detroit House of Correction not exceeding three months.

Added by Act No. 219, P. A. 1889.

65. (C. L., 11423) Sec. 12. If milk sold or offered for sale under the provisions of this act as pure milk, is shown upon analysis by weight to contain more than eighty-seven and fifty one hundredths per centum of watery fluid, or to contain less than twelve and fifty one hundredths of milk solids, per centum, or less fat than three per centum, or if the specific gravity at 60 degrees Fahrenheit is not between 1 29-1000 to 1 33-1000, it shall be deemed to be adulterated. If milk sold or offered for sale under the provisions of this act as skimmed milk has a specific gravity at 60 degrees Fahrenheit less than 1.032, and greater than 1.037, it shall be deemed to be adulterated.

Added by Act No. 219, P. A. 1889.

66. (C. L., 11424) Sec. 13. Whenever any inspector of milk has reason to believe that any milk found by him is adulterated, he shall take specimens thereof and test the same with such instrument or instruments as are used for such purposes, and he shall make an analysis thereof, showing total solids, the percentage of butter, the percentage of water and the percentage of ash; and if the result of such test and analysis indicates that the milk has been adulterated or deprived of its cream or any part thereof, the same shall be *prima facie* evidence of such adulteration in a prosecution under this act.

Added by Act No. 219, P. A. 1889.

67. (C. L., 11425) Sec. 14. Any person who shall remove the cream or any part thereof from milk to be sold as pure milk to any manufactory in which milk is used as a material in the process of production, and any person who shall, in any manner. adulterate such milk, either by the addition of water or otherwise, shall be guilty of a misdemeanor, and shall, for every such offense, be punished by a fine not exceeding one hundred dollars, or by imprisonment in the county jail or Detroit House of Correction not exceeding ninety days.

Added by Act No. 219, P. A. 1889.

AN ACT in relation to the sale and delivery of milk.

(Act No. 106, Public Acts, 1899.)

The People of the State of Michigan enact:

68. Section 1. No person shall offer or expose for sale, sell, exchange or deliver, or have in his possession with intent to sell, exchange or deliver, any milk to which water, chemicals or preservatives, or any other foreign substance has been added. The term milk as used in this act shall include all skimmed milk, butter milk, cream and milk in its natural state as drawn from the cow.

69. Sec. 2. Whoever shall do any of the acts or things prohibited, or neglects or refuses to do any of the acts or things enjoined by this act, or in any way violates any of its provisions, shall be deemed guilty of a misdemeanor, and shall be punished by a fine of not less than one dollar nor more than one hundred dollars and the costs of prosecution, or by imprisonment in the county jail not more than ninety days, or by both such fine and imprisonment, in the discretion of the court.

This act is ordered to take immediate effect.

OLEOMARGARINE.

AN ACT in relation to the manufacture and sale of oleomargarine or imitation butter.

(Act No. 147, Public Acts. 1899.)

The People of the State of Michigan enact:

70. Section 1. No person shall sell, expose or offer for sale, or exchange, or have in his possession with intent to sell or exchange, any oleomargarine or other substance made in imitation of butter, and which is intended to be used as a substitute for butter, unless each and every vessel, package, roll or parcel of such substance has distinctly and durably printed, stamped or stenciled thereon in black letters the true name of such substance, in ordinary bold faced capital letters, not less than five line pica in size; and also the name and address of the manufacturer, together with the name of each and every article or ingredient used or entering into the composition of such substance, in ordinary bold faced letters, not less than pica in size.

71. Sec. 2. No person shall sell, exchange or deliver any oleomargarine or other substance made in imitation of butter, and which is intended to be used as a substitute for butter, unless he shall distinctly inform the purchaser by a verbal notice at the time of the sale that the same is a substitute for butter, and shall also deliver to the purchaser of each and every roll, package or parcel of such oleomargarine or other substance, at the time of the delivery of the same, a separate and distinct label, on which is plainly and legibly printed in black ink in ordinary bold faced

capital letters not less than five line pica in size, the true name of such substance and also the name and address of the manufacturer, together with the name of each article used and entering into the composition of such substance, in ordinary bold faced letters not less than pica in size.

72. Sec. 3. The proprietor or keeper of any store, hotel, restaurant, eating saloon, boarding house, or other place where oleomargarine is sold or furnished to persons paying for the same, shall have placed on the walls of every store or room where oleomargarine is sold or furnished, a white placard, on which is printed in black ink, in plain Roman letters of not less than three inches in length, and not less than two inches in width, the words "Oleomargarine Sold or Used Here," and shall at all times keep the same exposed in such conspicuous place as to be readily seen by any and all persons entering such store, or other room or rooms.

73. Sec. 4. No person shall use in any way, in connection or association with the sale or exposure for sale or advertisement of any substance designed to be used as a substitute for butter, the word "butter," "creamery" or "dairy," or the name or representation of any breed of dairy cattle, or any combination of such word or words and representation, or any other words or symbols or combinations thereof commonly used in the sale of butter.

74. Sec. 5. For the purpose of this act the word "butter" shall be understood to mean the food product usually known as butter, and which is made exclusively from milk or cream, or both, with or without common salt, and with or without additional coloring matter.

75. Sec. 6. For the purposes of this act certain manufactured substances, certain extracts, and certain mixtures and compounds, including such mixtures and compounds with butter, shall be known and designated as "oleomargarine," namely: All substances heretofore known as oleomargarine, oleo, oleomargarine oil, butterine, lardine, suine and neutral; all mixtures and compounds of oleomargarine, oleo, oleomargarine oil, butterine, lardine, suine and neutral; all lard extracts and tallow extracts; and all mixtures and compounds of tallow, beef fat, suet, lard, lard oil, vegetable oil, butterine, lardine, suine and neutral; all lard extracts and tallow extracts; and all mixtures and compounds of tallow, beef fat, suet, lard, lard oil, vegetable oil, intestinal fat, and offal fat, made in imitation or semblance of butter, or when so made, calculated or intended to be sold or used as butter or for butter.

76. Sec. 7. Whoever violates any of the provisions of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than fifty dollars, nor more than five hundred dollars, and the costs of prosecution, or by imprisonment in the county jail or State House of Correction and Reformatory at Ionia, for not less than six months nor more than three years, or by both such fine and imprisonment in the discretion of the court, in each and every offense. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

This act is ordered to take immediate effect.

AN ACT to prevent deception in the manufacture and sale of imitation butter.

(Act No. 22, Public Acts, 1901.)

The People of the State of Michigan enact:

77. Section 1. No person, by himself or his agents, or servants, shall render or manufacture, sell, offer for sale, expose for sale, or have in his possession with intent to sell, any article, product or compound made wholly or in part out of any fat, oil or oleaginous substance or compound thereof, not produced from unadulterated milk or cream from the same, which shall be in imitation of yellow butter produced from pure unadulterated milk or cream of the same: *Provided,* That nothing in this act shall be construed to prohibit the manufacture or sale of oleomargarine in a separate and distinct form, and in such manner as will advise the consumer of its real character, free from coloration or ingredient that causes it to look like butter.

78. Sec. 2. Whoever violates any of the provisions of section one of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine of not less than fifty dollars nor more than five hundred dollars, and the costs of prosecution, or by imprisonment in the county jail or State House of Correction and Reformatory at Ionia for not less than six months nor more than three years, or by both such fine and imprisonment in the discretion of the court, for each and every offense.

RENOVATED BUTTER.

AN ACT in relation to the manufacture and sale of renovated butter.

(Act No. 243, Public Acts, 1903.)

The People of the State of Michigan enact:

79. Section 1. No person, firm or corporation shall manufacture for sale, offer or expose for sale, sell, exchange or deliver, or have in his possession with the intent to sell, exchange or deliver, any butter that is produced by taking original packing stock butter or other butter, or both, melting the same so that the butter fat can be drawn off or extracted, mixing the said butter fat with skimmed milk, or milk or cream, or other milk product, and rechurning or reworking the said mixture; nor shall any person, firm or corporation manufacture for sale, offer or expose for sale, sell, exchange or deliver, or have in his possession for any such purpose any butter which has been subjected to any process by which it is melted, clarified or refined, and made to resemble butter, and is commonly known as boiled, process or renovated butter, and which for the purpose of this act is hereby designated as "Renovated Butter," unless the same shall be branded or marked as provided in section two of this act.

80. Sec. 2. Whoever, himself or by his agent, or as the servant or agent of another person, shall sell, expose for sale or have in his custody or possession with the intent to sell any "Renovated Butter," as defined in section one of this act, shall have the words "Renovated Butter" conspicuously stamped, labeled or marked in one or two lines and in plain gothic letters, at least three-eighths of an inch square, so that the words cannot be easily defaced, upon two sides of each and every tub, firkin, box or package containing said "Renovated Butter"; or, if such butter is exposed for sale uncovered, or not in a case or package, a placard containing said words in the same form as above described in this section shall be attached to the mass in such a manner as to be easily seen and read by the purchaser. When "Renovated Butter" is sold from such package or otherwise at retail, in print, roll or other form, before being delivered to the purchaser, it shall be wrapped in wrappers plainly stamped on the outside thereof with the words "Renovated Butter" printed or stamped thereon in one or two lines, and in plain gothic letters at least three-eighths of an inch square, and such wrapper shall contain no other words or printing thereon, and said words "Renovated Butter" so stamped or printed on the said wrapper shall not be in any manner concealed, but shall be in plain view of the purchaser at the time of the purchase.

81. Sec. 3. Whoever shall violate any of the provisions of this act shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not less than twenty-five dollars nor more than five hundred dollars, and the costs of prosecution, or by imprisonment in the county jail or Michigan Reformatory at Ionia, for not less than six months nor more than three years, or by both such fine and imprisonment, in the discretion of the court, for each and every offense.

82. Sec. 4. Act number two hundred fifty-four of the public acts of eighteen hundred ninety-nine, entitled "An act to regulate the sale of butter produced by taking original packing stock and other butter and melting the same so that the butter oil can be drawn off, mixed with skimmed milk or other material, and by emulsion or other process produce butter, and butter produced by any similar process and commonly known as 'process' butter; providing for the enforcement thereof, and punishment for the violation of the same," is hereby repealed.

CANDY.

AN ACT to prevent the adulteration of candies and confectioneries and the sale thereof, when so adulterated as to be injurious to the public health.

(Act No. 11, Public Acts, 1887.)

The People of the State of Michigan enact:

83. (C. L., 11409) Section 1. That any person or persons manufacturing for sale or knowingly selling or offering to sell any candies or confectioneries adulterated by the admixture of terra alba, barytes, talc or other earthy or mineral substances, or any poisonous colors, flavors

or extracts, or other deleterious ingredients detrimental to health, shall upon proper conviction thereof, before a court of competent jurisdiction, be punished by a fine not less than ten nor more than one hundred dollars, or imprisonment in the county jail not less than ten nor more than thirty days, or both such fine and imprisonment in the discretion of the court.

84. (C. L., 11410) Sec. 2. It is hereby made the duty of the local health officer or local board of health having jurisdiction thereof to investigate without unnecessary delay all complaints that may be properly brought before them and containing the facts as supported by affidavit of the parties complaining of the adulteration or sale of adulterated candies or confectioneries, and if after investigation by such officer or board reasonable cause for action is found to exist, then such officer or board shall at once give notice to the prosecuting attorney of the county in which such complaint is made, and make or cause to be made, before a proper officer, a formal complaint in writing and duly verified, and thereupon said prosecuting attorney shall immediately commence proceedings against the person or persons so offending.

LIQUORS.

AN ACT for the regulation of, manufacture and sale of spirituous and intoxicating liquors.

(Extract from Act No. 313, Public Acts, 1887.)

85. (C. L., 5403) Sec. 25. If any person shall adulterate any spirituous, or alcoholic liquors used or intended for drink, by mixing the same in the manufacture or preparation thereof, or by process of rectifying, or otherwise, with any deleterious drug, substance, or liquid, which is poisonous or injurious to health, except as hereinafter provided, or if any person shall sell, or offer to sell, any wine, or spirituous, or alcoholic liquors, or shall import into this State any wine or spirituous or intoxicating liquors and sell, or offer for sale such liquors, knowing the same to be adulterated, or shall sell, or offer to sell, any spirituous or intoxicating liquors from any barrel, cask or other vessel containing the same, and not branded as hereinafter provided, he shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine not exceeding five hundred dollars, nor less than fifty dollars, and shall be imprisoned in the jail of the county not more than six months, nor less than ten days.

86. (C. L., 5404) Sec. 26. It shall be the duty of every person or persons, engaged in the manufacture and sale of malt, spirituous, or alcoholic liquors, or in rectifying or preparing the same in any way, to brand on each barrel, cask, or other vessel containing the same, the name or names of the person, company or firm manufacturing, rectifying or preparing the same, and also these words, "Pure and without drugs or poison."

87. (C. L., 5405) Sec. 27. No person shall sell at wholesale or retail any ale, rum, wine or other malt or spirituous liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

88. (C. L., 5406) Sec. 28. If any barrel, cask or other vessel containing any drugged or poisoned liquor shall be found in the possession of any wholesale or retail dealer in liquors, or in the possession of any person holding himself out as such a dealer, it shall be deemed *prima facie* evidence of the violation of the provisions of this act.

89. (C. L., 5407) Sec. 29. Any person who shall put into any barrel, cask or other vessel, branded or marked as required by this act, any liquors drugged or adulterated as aforesaid. or who shall sell or offer for sale any such liquors, for the purpose and with the intent of deceiving any person in the sale thereof, or shall violate any of the provisions of sections twenty-six, twenty-seven or twenty-eight, of this act, shall be deemed guilty of a misdemeanor, and upon convction thereof shall be punished as provided in section twenty-five of this act.

90. (C. L., 5408) Sec. 30. The provisions of this act shall not be so construed as to prevent druggists, physicians and persons engaged in the mechanical arts from compounding liquors for medicinal and mechanical purposes.

PEPPER.

AN ACT to provide for the manufacture and sale of black pepper in this State, and to provide a penalty for the violation of the provisions of this act.

(Act No. 180, Public Acts, 1901.)

The People of the State of Michigan enact:

91. Section 1. Within this State no person, firm or corporation shall manufacture, offer or expose for sale, keep in possession with intent to sell, or sell any ground or whole black pepper containing any foreign substance whatever. All black pepper shall contain not more than six and one-half per cent ash or mineral matter; and shall contain not less than twenty-five per cent starch as determined by the diastase method; and shall contain not less than six-tenths of one per cent nor more than one and three-fourths per cent of volatile ether extract; and shall contain not more than ten per cent nor less than six and one-half per cent of non-volatile ether extract; and shall contain not more than sixteen per cent of crude fibre.

92. Sec. 2. Whoever shall do any of the acts or things prohibited, or neglects or refuses to do any of the acts or things enjoined by this act, or in any way violates any of its provisions, shall be deemed guilty of a misdemeanor, and shall be punished by a fine not less than twenty-five dollars nor more than five hundred dollars. and the costs of the prosecution, or by imprisonment in the county jail not more than ninety days, or by both such fine and imprisonment, in the discretion of the court.

CORN SYRUP.

AN ACT in relation to the sale of corn syrup.

(Act No. 123, Public Acts, 1903.)

The People of the State of Michigan enact:

93. Section 1. No person shall offer or expose for sale, have in his possession with intent to sell, or sell, any cane syrup, beet syrup, or glucose, unless the barrel. cask, keg, can, pail or package containing the same be distinctly branded or labeled with the true and appropriate name; nor shall any person offer or expose for sale, have in his possession with intent to sell, or sell any cane syrup or beet syrup mixed with glucose unless the barrel. cask, keg, can, pail or package containing the same be distinctly branded or labeled "Glucose Mixture" or "Corn Syrup" in plain gothic type not less than three-eighths of an inch square, with the name and percentage by weight of each ingredient contained therein plainly stamped, branded or stenciled on each package in plain gothic letters not less than one-quarter of an inch square. Each and every package of syrup either simple or mixed shall bear the name and address of the manufacturer. Such mixtures or syrups shall have no other designation or brand than herein required that represents or is the name of any article which contains a saccharine substance; and all brands or labels required shall be an inseparable part of the general or distinguishing label, and that the general or distinguishing label shall be that principal and conspicuous sign under which it is sold.

94. Sec. 2. Whoever shall do any of the acts or things prohibited, or neglect or refuse to do any of the acts or things required by this act, or in any way violate any of the provisions, shall be deemed guilty of a misdemeanor, and shall be punished by a fine not less than twenty-five dollars nor more than one hundred dollars, or by imprisonment in the county jail for a period of not less than thirty nor more than ninety days, or by both such fine and imprisonment in the discretion of the court.

This act is ordered to take immediate effect.

MICHIGAN SUPREME COURT.

DECISIONS RELATIVE TO DAIRY AND FOOD LAWS.

PEOPLE v. SNOWBERGER.

(Opinion filed May 25, 1897.)

Adulteration of Food—Statutory Offenses—Intent—Police Power.

1. It is competent for the legislature under the police power, to provide for the protection of the public health by making it an offense punishable by fine and imprisonment to sell adulterated food or drink, irrespective of the seller's knowledge of the adulteration.
2. Act No. 193, Public Acts 1895, prohibits the manufacture or sale of adulterated articles of food or drink, and prescribes what shall be deemed adulteration within the meaning of the act. Section 8 forbids any person from *knowingly* offering for sale cheese which is falsely labeled; this being the only case in which knowledge is expressly made an element of an offense designated by such statute. *Held*, that proof of guilty knowledge or intent is not essential to the conviction of one who sells adulterated food.

(113 Mich. 86.)

Exceptions before judgment from Monroe; Kinne, J.

Michael Snowberger was convicted of selling adulterated food, in violation of act No. 193, Public Acts of 1895.

Conviction affirmed.

William Look and Ira G. Humphrey, for appellant.

Bowen, Douglas & Whiting, of counsel.

Willis Baldwin, Prosecuting Attorney, for the people.

Long, C. J: Respondent was convicted under an information charging that: "On the 19th day of April, A. D. 1897, at the city of Monroe, and in the county aforesaid, Michael Snowberger did offer for sale, and sell, to Carl Franke, an adulterated article of food, to-wit: A quantity of mustard, to-wit, a quarter of a pound, colored and adulterated with turmeric, whereby the said mustard, as an article of food, was damaged and its inferiority concealed and whereby it was made to appear of better and of greater value than it really was, the same not being a mixture or compound recognized as ordinary articles or ingredients of articles of food; contrary to the form of the statute in such case made and provided," etc.

The information was filed under act No. 193, Public Acts 1895, entitled "An act to prohibit and prevent adulteration, fraud and deception in the manufacture and sale of articles of food and drink." The act provides:

Section 1. "No person shall within this State manufacture for sale, offer for sale, or sell any article of food which is adulterated within the meaning of this act."

Section 2. "The term food as used herein, shall include all articles used for food

> or drink, or intended to be eaten or drunk by man, whether simple, mixed or compound."
>
> Section 3. "An article shall be deemed to be adulterated within the meaning of this act: One, If any substance or substances have been mixed with it so as to lower or depreciate or injuriously affect its quality, strength or purity; Two, If any inferior or cheaper substance or substances have been substituted wholly or in part for it; Three, If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it; Four, If it is sold under the name of another article; Five, If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or in case of milk, if it is the product of a diseased animal; Six, If it is colored, coated, polished or powdered, whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is; Seven, If it contains an added substance or ingredient which is poisonous or injurious to health: *Provided*, That the provisions of this act shall not apply to mixtures or compounds recognized as ordinary articles or ingredients of articles of food, if each and every package sold or offered for sale be distinctly labeled as mixtures or compounds, and are not injurious to health."

Section 19 makes any violation of the act a misdemeanor and provides a penalty by a fine of not less than $100 nor more than $500, or by imprisonment in the county jail, etc.

On the trial respondent admitted, that on the 19th day of April, 1897, he, at the city of Monroe, this State, offered for sale and did sell to Carl Franke a quantity of mustard, to wit, a quarter of a pound, which was afterwards found upon a chemical examination to be colored and adulterated with turmeric, whereby the said mustard as an article of food was damaged and its inferiority concealed, and it was thereby made to appear of greater and better value than it really was; the same not being a mixture or compound recognized as an ordinary article or ingredient of articles of food.

But he claimed that said article of mustard, so sold, was purchased by him as a pure article in good faith, and that he believed at the time of the purchase by him and also at the time of the sale to the said Franke, that the same was pure mustard, free from any coloring and adulteration with turmeric or any other coloring or adulterant, and that no inferiority was concealed whereby it was made to appear of greater or better value than it really was; that at the time he purchased the same he asked for pure mustard and that the same was warranted to him as pure; that he did not make or cause to have made a chemical examination of the same and did not inform himself or endeavor to ascertain the methods of determining pure from impure mustards, but relied upon the representations of his vender and the appearance of the article to the eye; and that he did not intend to violate the law.

From such conviction respondent appeals.

It is the contention of counsel for respondent that it was the intent of the legislature to provide by the act that no person should be convicted and punished for selling adulterated food or drink without showing that he knew the same to be adulterated; that the information does not charge such knowledge, and the proofs disclose that respondent acted in good faith and in the belief that the article sold was pure and unadulterated.

The act cannot be so construed. The offense under the act consists in selling an article intended to be eaten or drunk which is adulterated. Section 8 of the act shows conclusively that the legislature did not intend to make criminal intent or guilty knowledge a necessary ingredient of the offense. As a rule there can be no crime without a criminal intent; but this rule is not universal.

In People v. Roby, 52 Mich. 577, (50 Am. Rep. 270), the respondent was convicted of the offense under the statute of keeping his saloon open on Sunday. It was there said: "It is contended that to constitute an offense under the section referred to (How. Stat., Sec. 2274), there must be some evidence tending to show an intent on the part of the respondent to violate it. * * * The section under which Roby is prosecuted makes the crime consist, not in the affirmative act of any person, but in the negative conduct of failing to keep the saloon closed. As a rule there can be no crime without a criminal intent; but this is not by any means a universal rule. One may be guilty of the high crime of manslaughter when his only fault is gross negligence, and there are many other cases where mere neglect may be highly criminal. Many statutes which are in the nature of police regulations, as this is, impose criminal penalties irrespective of any intent to violate them; the purpose being to require a degree of diligence for the protection of the public which shall render violation impossible."

Many cases are cited in that case where convictions were sustained although the element of guilty knowledge was lacking. Thus in Massachusetts a person may be convicted of the crime of selling intoxicating liquors as a beverage though he did not know it to be intoxicating.

Com. v. Boynton, 2 Allen, 160.

And of the offense of selling adulterated milk, though ignorant of its adulteration.

Com. v. Farren, 9 Allen, 489.
Com. v. Nichols, 10 Allen, 199.
Com. v. Waite, 11 Allen, 264.
Com. v. Smith, 103 Mass., 444.

In Missouri a magistrate may be liable to the penalty for performing the marriage ceremony for minors without consent of parents or guardians, though he may suppose them to be of the proper age.

Beckham v. Nacke, 56 Mo., 546.

Where the killing and sale of a calf under a specified age is prohibited there may be a conviction though the party was ignorant of the animal's age.

Com. v. Raymond, 97 Mass., 567.

In People v. Welsh, 71 Mich. 548, this court in speaking of People v. Roby, supra, said: "When a statute does not make intent an element of the offense, but commands an act to be done or omitted, which in the absence of the statute might have been done or omitted without culpability, ignorance of the fact or state of things contemplated by the statute will not excuse its violation"; citing:

State v. Hartfiel, 24 Wis., 60.

In the late case in this court of Walcott v. Judge of Superior Court, 112 Mich. 311, the relator as prosecuting attorney of the county, filed an information against one Fred Saunders, charging him with being engaged in selling liquor without giving the bond required by the statute. The bond was fair upon its face, but one of the sureties, it appears, was disqualified under section 2283d1, 3 How. Stat. The information did not allege that respondent had knowledge of this defect in the bond. The information was quashed by the court below, and the relator asked the aid of mandamus to compel the respondent to reinstate the case. It was said by this court in the majority opinion: "It was the intention of the legislature to make the execution and delivery of the prescribed bond a condition precedent to sale, and to require the person desiring to engage in the business mentioned to assume the responsibility of knowing that the bond when presented complies in all essential particulars with the law. He must know that his sureties are males, that they are resident freeholders of the township, village or city in which the business is to be carried on, that they hold none of the offices prohibited by the act, and that at the time the bond is filed neither is a surety upon more than two bonds required by the act."

It appeared that one of the sureties was already upon more than two bonds; and the writ was granted compelling the respondent to reinstate the case. The case of People v. Roby was cited in that case in support of the proposition that intent was not an ingredient of the offense.

These regulations are under the police power of the State. Undoubtedly it was competent for the legislature to prohibit the sale of adulterated articles of food and drink. The police power of the State extends to the protection of the health as well as of the lives and property of the citizens. Generally it is for the legislature to determine what laws and regulations are needed to protect the public health and secure the public comfort and safety. If it passes an act ostensibly for the public health and thereby destroys or takes away the property of the citizen or interferes with his liberty it is for the courts to determine whether it relates to and is appropriate to promote such public health. Under the police power the conduct of individuals and the use of property may be regulated so as to interfere to some extent with the freedom of the one and the enjoyment of the other. It cannot be doubted that the legislature intended by this act to protect the public against the harmful consequences of sales of adulterated food, and to the end that its purpose might not be defeated to require the seller at his peril to know that the article which he offers for sale is not adulterated.

As was said by the supreme court of Ohio, in State v. Kelly, 54 Ohio St. 166: "If this statute had imposed upon the State the burden of proving * * * his knowledge of its adulteration, it would thereby have defeated its declared purpose."

In State v. Smith, 10 R. I. 260, the court, in speaking of the offense of selling adulterated milk, said: "Counsel for defendant asked the court to charge that there must be evidence of a guilty intent on the part of the defendant and of a guilty knowledge in order to convict him. Our statute in that provision of it, under which this indictment was found, does not essentially differ from the statute of Massachusetts, and there previous to the enactment of our statute the supreme court had determined that a person might be convicted although he had no knowledge of the adulteration; the intent of the legislature being that the seller of milk should take upon himself the risk of knowing that the article he offers for sale is not adulterated."

Statutes in many states have been passed providing that whoever sells, or keeps or offers for sale adulterated milk, or milk to which water or other foreign substance has been added, shall be punished, etc. Under these statutes it has been decided many times that the risk is upon the seller of knowing that the article he offers for sale is not adulterated, and that it is not necessary in an indictment under such a statute to allege or prove criminal intent or guilty knowledge.

Com. v. Smith, 103 Mass., 444.
Com. v. Warren, 160 Mass., 533.
People v. Cipperly, 101 N. Y., 634.

The same rule that no criminal intent is necessary has been held to apply under an act forbidding the sale of oleomargarine or other imitations of dairy products, unless express notice be given to the purchaser.

Bayles v. Newton, 50 N. J. L., 549.
Com. v. Gray, 150 Mass., 327.

The English rule is in keeping with the doctrice in this country on this subject.

Roberts v. Egerton, L. R., 9 Q. B., 494.

The statute not requiring knowledge on the part of the seller to make the offense complete, we are satisfied that the conviction must be sustained. No case has been cited, and we are not able to find one, where a contrary doctrine is laid down. The act may work hardship in many cases; but that question is one to be addressed to the legislature and not to the courts. As we have said, it was within the power of the legislature to pass the act making it an offense punishable with fine and imprisonment to sell adulterated food or drink, although the person selling the same has no knowledge that it is adulterated. Under this statute one making sales must do so at his peril.

The conviction is affirmed.

Grant, J., did not sit. The other justices concurred.

PEOPLE v. WORDEN GROCER CO.

(Opinion filed December 6, 1898.)

Constitutional Law—Act to Prevent Sale of Adulterated Vinegar—Complaint—Reasonableness of Statute—Defense.

1. The title to an act reading "An act in relation to the manufacture and sale of vinegar, and to repeal Act No. 224 of the Public Acts of 1889, approved, etc.," held broad enough to support an enactment to prevent deception in the sale of vinegar or to prevent adulteration of vinegar.
2. A conviction for a sale of "fermented cider vinegar" which was not up to the standard prescribed by Act No. 71, Public Acts of 1897, may be had under a complaint drawn under section 2 of the act.
3. The question as to whether the requirements of an act passed to prevent the sale of adulterated vinegar are such as to render the act unreasonable, cannot be determined by the courts and does not raise a question of fact for determination by a jury.
4. Where a sample of vinegar is taken from a dealer for the purpose of testing it to see if it conforms to the standard required by law it is not necessary that a sample be left with the dealer.

5. A prosecution for a sale of vinegar in violation of Act No. 71, Public Acts of 1897, cannot be defended on the ground that the person so manufacturing or selling vinegar below the standard has no knowledge that it is not within the standard prescribed.

Error to the circuit court of Kent county; Allen C. Adsit, J.

Appeal of the Worden Grocer Co. from a conviction of a violation of act No. 71, Public Acts of 1897. Affirmed.

Frank A. Rodgers, Prosecuting Attorney; Benn M. Corwin, Assistant Prosecuting Attorney, for the people.

Rood & Hindman, for respondent.

Long, J.: The complaint in this cause charges that the defendant: "On February 5, 1898, did unlawfully sell and deliver to John T. Owens of Benton Harbor, Michigan, a large quantity, to-wit: One barrel of vinegar which was not then and there in compliance with the provisions of act No. 71, Public Acts, 1897. in this, viz.: That said vinegar was sold as "fermented cider vinegar" and branded as such; that said vinegar contained less than one and three-fourths per cent by weight upon full evaporation (at the temperature of boiling water) of solids contained in the fruit from which said vinegar is fermented, to-wit: One and fifty-one one-hundredths per cent of solids; and said vinegar contained less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar was manufactured, to-wit: Eight one-hundredths of one per cent of ash or mineral matter, against the form of the statute in such case made and provided," etc.

The cause was commenced in the police court, and, being removed to the circuit, came on to be heard before a jury. The defendant refused to plead, and counsel for defendant thereupon made a motion to quash the complaint and summons for several reasons, which will be hereafter discussed. The court upon the trial directed a verdict of guilty, and the cause comes to this court on exceptions before judgment.

The title of the act reads: "An act in relation to the manufacture and sale of vinegar, and to repeal act No. 224 of the Public Acts of 1889, approved," etc. Sections one and two of the act, being the sections in question. provide:

> "Section 1. The People of the State of Michigan enact, That no person shall manufacture for sale, offer or expose for sale, sell or deliver, or have in his possession with intent to sell or deliver, any vinegar not in compliance with the provisions of this act. No vinegar shall be sold as apple, orchard or cider vinegar, which is not the legitimate product of pure apple juice, known as apple cider or vinegar not made exclusively of said apple cider or vinegar into which foreign substance, drugs or acids have been introduced, as may appear upon proper test, and upon said test, shall contain not less than one and three-fourths per cent, by weight, of cider vinegar solids upon full evaporation at the temperature of boiling water.
>
> "Section 2. All vinegar made by fermentation and oxidation without the intervention of distillation shall be branded 'fermented vinegar' with the name of the fruit or substance from which the same is made. And all vinegar made wholly or in part from distilled liquor shall be branded 'distilled vinegar,' and all of such distilled vinegar shall be free from coloring matter added during or after distillation and from color other than that imparted to it by distillation. And all fermented vinegar not distilled shall contain not less than one and three-fourths per

cent, by weight, upon full evaporation (at the temperature of boiling water) of solids, contained in the fruit or grain from which said vinegar is fermented, and said vinegar shall contain not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. And all vinegar shall be made wholly from the fruit or grain from which it purports to be or is represented to be made, and shall contain no foreign substance and shall contain not less than four per cent, by weight. of absolute acetic acid."

It appears by the testimony that the defendant, a Michigan corporation doing business at Grand Rapids, on February 5, 1898, sold a barrel of vinegar to one John T. Owens of Benton Harbor. The sale is admitted. A sample of the vinegar was taken from this barrel and analyzed by the State analyst, Mr. Fred H. Borradaile. The correctness of this analysis is not disputed. This analysis showed that the vinegar did not comply with the requirements of the statute in that it did not contain the amount of solids nor the amount of ash or mineral matter required.

The contentions made by counsel for defendant mostly relate to the validity of the act.

1. It is contended that the title to the act does not express any object; that the act was intended to prevent deception in the sale of vinegar or to prevent adulteration of vinegar, but that no such object is expressed in the title; and that the act is therefore in conflict with section 20 of article 4, of the constitution of this State, which provides that: "No law shall embrace more than one object, which shall be expressed in its title."

We think this contention sufficiently answered by what was said by this court in Soukup v. Van Dyke, 109 Mich. 681. There the title was: "An act relative to justices' courts in the city of Grand Rapids." It was said: "The title is sufficient if it fairly and reasonably announces the object and that is a single one. If this requirement be observed, the legislature must determine for itself how broad and comprehensive shall be the object of a statute and how much particularity shall be employed in the title in defining it."

In People v. Kelly, 99 Mich. 82, the title under discussion was: "An act relative to disorderly persons, and to repeal," etc.

See also:

State v. County Judges, 2 Iowa, 280.
McAunich v. The Miss. & Mo. R. R. Co., 20 Iowa, 342.

2. Counsel contend that the complaint being drawn under section two of the act. no conviction can follow; that if any violation of the law be found, it is of section one and not of section two of the act; that, therefore, the complaint was drawn under the wrong section.

This contention cannot be sustained. It is plain from the reading of these sections that the legislature intended that all fermented vinegar should come up to the required standard, whether made from fruit or grain.

3. The defendant contends that the act is unreasonable and therefore void as beyond the police power of the State, in that the test for cider vinegar in regard to solids is arbitrary, unscientific and not calculated to accomplish the end sought by the legislature, viz.: To protect the public health against spurious vinegar; that such test is no test, because:

a. Said solids and ash are indifferent ingredients of vinegar from a hygienic standpoint.

b. Their comparative absence or presence is not an essential ingredient of pure apple cider vinegar.

c. A vinegar can be manufactured which will satisfy the requirements of the statute and yet contain no materials from apples or the product of apples.

d. A pure apple cider vinegar is frequently made which is below the requirements of the statute in solids and ash.

e. The less proportion of solids is a proof of greater purity in the vinegar and of its better keeping qualities.

These questions might very properly be addressed to the legislature, but are matters with which the court has nothing to do. It is not a part of the functions of the court to investigate the facts entering into questions of public policy merely. Under our system that power is lodged in the legislative branch of the government. It belongs to that branch to determine primarily what measures are appropriate or needful for the protection of the public morals, the public health or the public safety.

Barton v. McWhinney, 85 Ind. 481.
Mugler v. Kansas, 123 U. S., 660.
Powell v. Pennsylvania, 127 U. S., 685.

In People v. Snowberger, 113 Mich. 92, it was said by this court: "The act may work hardship in many cases, but that question is one to be addressed to the legislature and not to the courts."

The question of the reasonableness of the acts found in many states relative to the sale of milk below a certain standard has been frequently raised in the courts, and the acts upheld.

In Com. v. Evans, 132 Mass. 11, the court, passing upon such a statute, said: "The intention of the legislature and the practical operation of this section in connection with the third section is to provide that it shall be unlawful to sell milk containing less than thirteen per centum of milk solids. This belongs to the class of police regulations designated to prevent frauds and to protect the health of the people, which it is within the constitutional power of the legislature to enact."

In State v. Smythe, 14 R. I. 100, the court said: "It was the purpose of the statute to prohibit, not only the dealing in milk which had been adulterated, but also in milk of such inferior quality as to fall below the standard named in section three. It is equally a fraud on the buyer, whether the milk which he buys was originally good and has been deteriorated by the addition of water or whether in its natural state it is so poor that it contains the same proportion of water as that which has been adulterated." See also:

State v. Newton, 45 N. J. L., 469.
Bertholf v. O'Reilly, 74 N. Y., 509.
State v. Campbell, 64 N. H., 403.
10 Am. St. Rep. 419.

But counsel contend that the reasonableness of this act is a question of fact for the jury to determine from the expert chemical evidence.

This question is neither for the court nor the jury to determine. In People v. Cipperly, 101 N. Y. 634, that very question was discussed and decided adversely to the claim here. It was said: "The defendant takes the broader ground that the legislature cannot under the constitution prohibit the sale of milk drawn from healthy cows which in its natural state falls below standard fixed by the act, unless such milk, or the articles made from it, are in fact unwholesome or dangerous to public health. How is that question of fact to be determined? The court cannot take judicial notice whether milk below the standard is or is not unwholesome or dangerous to public health. Is that to be a question for the jury? If so, the court must charge a jury in each case that if they find milk below that standard to be unwholesome, then the statute is constitutional; if they find it to be wholesome, then the statute is unconstitutional. Evidently a constitutional question cannot be settled, or rather, unsettled, in that way. The constitutionality would vary with the varying judgments of juries."

In the emery wheel case before us, in People v. Smith, 108 Mich., p. 534, a somewhat similar question was discussed. It was said: "If the courts find the plain provisions of the constitution violated, or if it can be said that the act is not within the rule of necessity in view of facts of which judicial notice may be taken, then the act must fall; otherwise it should stand."

See also:

People v. Girard, 145 N. Y., 109.
(45 Am. St. Rep. 595.)

4. Counsel also contend that defendant was not allowed, nor could it obtain, a sample of the vinegar in question for analysis, and was deprived of the right to produce evidence as to the amount of solids in the vinegar; and was thus deprived of property without due process of law.

The record shows that the defendant was not prevented from getting a sample of the vinegar by any person interested in the prosecution of the suit. The record shows that the only effort it made to get such sample was a letter written to Mr. Owens who had bought and paid for the vinegar, requesting him to return it, to which the defendant received no reply, and it does not appear that Mr. Owens had any of the vinegar left at that time. No sample was left with the defendant by the prosecution; nor was this necessary.

Com. v. Coleman, 157 Mass., 460.

5. This statute forbids the manufacture and sale of vinegar not in compliance therewith; and persons manufacturing or selling vinegar below the standard do so at their peril. It is no defense that the person so manufacturing or selling vinegar below the standard has no knowledge that it is not within the standard prescribed.

People v. Snowberger, 113 Mich. 86; 71 N. W. R., 497.

We have examined the other questions raised, but do not deem it necessary to discuss them. They relate mostly to offers of testimony which the court below ruled out; and, we think, properly.

The testimony was uncontradicted that the vinegar sold was not in compliance with the statute. The sale was admitted.

The court was not in error in directing the verdict. The conviction must be affirmed.

Grant, C. J., did not sit. The other justices concurred.

PEOPLE v. DETTENTHALER.

GROSVENOR v. JACKSON CIRCUIT JUDGE.

(Opinions filed December 6, 1898.)

Constitutional Law—Passage of Act Without Enactment Clause—Constitutional Provision Mandatory—Addition of Clause by Governor—Act 76, Laws of 1897, Invalid.

1. The provision in the Michigan State constitution, found in Sec. 48 of Art. IV, that all laws shall be styled, "The People of the State of Michigan enact," is mandatory and the passage of an act without the enactment clause renders the act invalid.
2. The addition of the enacting clause by the Governor before affixing his signature will not render the law valid which was passed without an enactment clause.
3. Act No. 76, Laws of 1897, being "An act to prevent deception in the manufacture and sale of imitation butter" held to be invalid because of the passage of the act without an enactment clause was not rendered valid by the addition of such clause by the Governor before affixing his signature to the act.

Error to the superior court of Grand Rapids; Edwin A. Burlingame, judge.

Exceptions taken by Frank J. Dettenthaler from a conviction of a violation of the pure food law. Reversed and no new trial.

Frank D. Rodgers, Prosecuting Attorney, (Rodgers, McDonald & Corwin, of counsel), for the people.

Rood & Hindman and E. F. Sweet, for respondent.

Certiorari by Elliot O. Grosvenor, Dairy and Food Commissioner, to review the action of the Jackson circuit judge in denying a mandamus. Affirmed.

John G. Hawley and Benn M. Corwin, for relator.
Rood & Hindman and E. F. Sweet, for respondent.

Hooker, J.: These cases involve the validity of Act No. 76, Public Acts, 1897, which is as follows:

"An act to prevent deception in the manufacture and sale of imitation butter."

Section 1. The People of the State of Michigan enact, That no person by himself or his agents, or servants, shall render or manufacture, sell, offer for sale, expose for sale, or have in his possession with intent to sell, any article, product or compound made wholly or in part out of any fat, oil or oleaginous substance or compound thereof, not produced from unadulterated milk or cream from the same, which shall be in imitation of yellow butter produced from pure unadulterated milk or cream from the same: Provided, That nothing in this act shall be construed to prohibit the manufacture or sale of oleomargarine in a separate and distinct form, and in such manner as will advise the consumer of its real character, free from coloration or ingredient that causes it to look like butter.

Sec. 2. Whoever violates any of the provisions of section one (1) of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than fifty dollars, nor more than five hundred dollars, and the costs of prosecution, or by imprisonment in the county jail, or State House of Correction and Reformatory at Ionia, for not less than six months, nor more than three years, or by both such fine and imprisonment in the discretion of the court for each and every offense.

Approved April 15, 1897.

The evidence in the first entitled cause shows that the defendant was convicted of the alleged offense of selling oleomargarine in contravention of this act.

In the other a complaint was made of a similar act to a justice, who refused to issue the warrant, and on application the circuit court denied a mandamus to compel it. The cases raise substantially the same questions, and were argued, and will be considered together. The validity of the law is questioned. The record shows that this was a senate bill and passed the senate without the constitutional enacting clause. The records of the house show that the bill was reported by the committee on agriculture and the committee of the whole, without amendment, and with the recommendation that it be passed. Under the head of "third reading of bills upon passage," the record of the house shows that "pending the third reading of the bill, Mr. Chamberlain moved that the bill be recommitted to the committee of the whole, which motion did not prevail. The bill having been read a third time, and the question being upon its passage pending the taking of the vote, Mr. Graham demanded the previous question. The demand was seconded. The question being, 'Shall the main question be now put?' The same was ordered. The bill was then passed, a majority of all the members elect voting therefor, by yeas and nays, as follows; * * * yeas 56, nays 19." As this is the only time the bill was before the house, we must find that the bill passed the house without an enacting clause, unless the contrary can be shown by other evidence. Counsel undertook to show that it was amended in this particular, by the records of the senate, and the testimony of the clerk of the house. The evidence is in brief, that previous to the passage of the bill in the house the clerk noticed the absence of the enacting clause, and brought it to the attention of the house, and said that he would enter one, and accordingly wrote the words in the original bill, i. e., the one which was then before the house. He did not testify that the house took any action upon it, or that any record was made of it.

The senate record shows that the bill was subsequently returned to the senate, accompanied by a letter from the clerk of the house, reading as follows:

"House of Representatives,
"Lansing, April 7, 1897.

"To the President of the Senate:

"Sir—I am instructed by the House to return to the Senate the following bill: Senate bill No. 6, file No. 24, entitled

'A bill to prevent deception in the manufacture and sale of imitation butter' and to inform the Senate that the House has amended the same as follows: By inserting in line 1, Section 1, after the words 'Section 1,' the words 'The People of the State of Michigan enact.'

"Very respectfully,
"LEWIS M. MILLER,
"Clerk of the House of Representatives.

"In the passage of which, as thus amended, the house has concurred by a majority vote of all the members elect."

It further appears that the Senate concurred in such amendment.

We must determine, therefore, whether the house is shown to have amended the bill by inserting an enacting clause and if not whether the law is valid without it.

The most that can be claimed is that there is oral testimony, that the clerk announced its absence and stated that he would supply it. Inferentially perhaps we may say that there was no objection made, but the evidence is silent as to what, if anything, occurred. There is nothing but this inference of silence which imports acquiescence in the amendment. There is nothing to show definite action by the house which alone had power to amend the bill before it. So that if the clause is essential to the validity of the act we need not discuss the propriety of admitting parol evidence to prove an amendment which should be shown by the record if one was authorized.

See Attorney General v. Rice, 64 Mich., 391.
Hart v. McElroy, 72 Mich., 446.
Sackrider v. Supervisors, 79 Mich., 66.

Is the constitutional enacting clause a requisite to a valid law? This must depend upon whether the constitutional provision is to be considered a mandatory provision or directory merely.

See Constitution, Art. IV., Sec. 48.

Among the authorities cited by the relator in support of his contention is that of Swann v. Buck, 40 Miss. 268. The constitutional provision is similar to ours, and it was held that a substantial compliance was sufficient. In that case the style of the resolution was: Resolved by the legislature of the State of Mississippi." The court was unable to discover a previous judicial decision of the question, but quoted Mr. Cushing to the effect that the prescribed "form must be strictly pursued, and that no equivalent language will be sufficient," and while declining to accept his rule, said: "It is necessary that every law should show on its face the authority by which it is adopted, and promulgated, and that it should clearly appear that it is intended by the legislative power that enacts it that it should take effect as a law. These conditions being fulfilled all that is absolutely necessary is expressed. The word 'resolved' is as potent to declare the legislative will as the word 'enacted.' "

The case of McPherson v. Leonard, 29 Md. 377, held that the provision of the constitution of Maryland was directory, and that the omission of the words, "by the general assembly of Maryland," did not render the law invalid. The question appears to have been treated as a new one.

The case of Cape Girardeau v. Riley, 52 Mo. 427, follows the Maryland case, in holding the provision directory; the court saying that after diligent search, no case holding to the contrary had been found. In this case, like the one before us, the entire enacting clause was wanting. In this connection we may add that previous decisions of the same court, holding the provision that writs should run in the name of the state, was directory, were given weight. In our State a contrary holding will be found.

See Forbes v. Darling, 94 Mich., 621.

There are, however, cases which take a contrary view of the law, and adhere to the doctrine asserted by Mr. Cushing, and the late Mr. Justice Cooley, in his work on constitutional limitations, 6 Ed., p. 93, viz.:

> "But the courts tread upon very dangerous ground when they venture to apply the rules which distinguish directory and mandatory statutes to the provisions of a constitution. Constitutions do not usually undertake to prescribe mere rules of proceeding, except when such rules are looked upon as essential to the thing to be done; and they must then be regarded in the light of limitations upon the power to be exercised. It is the province of an instrument of this solemn and permanent character to establish those fundamental maxims and fix those unvarying rules by which all departments of the government must at all times shape their conduct, and if it descends to prescribing mere rules of order in unessential matters, it is lowering the proper dignity of such an instrument, and usurping the proper province of ordinary legislation. We are not, therefore, to expect to find in a constitutional provision which the people, in adopting it, have not regarded as of high importance, and worthy to be embraced in an instrument, which, for a time at least, is to control alike the government and the governed, and to form a standard by which is to be measured the power which can be exercised as well by the delegate as by the sovereign people themselves. If directions are given respecting the times or modes of proceeding in which a power should be exercised, there is at least a strong presumption that the people designed it should be exercised, in that time and mode only; and we impute to the people a want of due appreciation of the purpose and proper province of such an instrument, when we infer that such directions are given to any other end. Especially when, as has already been said, it is but fair to presume that the people in their constitution have expressed themselves in careful and measured terms, corresponding with the immense importance of the powers delegated, and with a view to leave as little as possible to implication."

There are some cases, however, where the doctrine of directory statutes has been applied to constitutional provisions, but they are so plainly at variance with the weight of authority upon the precise points considered that we feel warranted in saying that the judicial decisions as they now stand do not sanction the application.

The question arose in Washington territory over a law fixing the seat of government, and the opinion of Cushing was quoted and followed. 1 Wash. Ter. 116. The case of Nevada v. Rogers, 10 Nevada 250. decided in 1875, did the same. An extended discussion of the subject will be found in that case, in support of the proposition that the language of the constitution should be literally followed.

The opinion concludes with the following pertinent and emphatic language:

> "Our constitution expressly provides that the enacting clause of every law shall be 'The People of the State of Nevada, represented in senate and assembly, do enact as follows.' This language is susceptible of but one interpretation. There is no doubtful meaning as to the intention. It is, in our judgment, an imperative mandate of the people in their sovereign capacity to the legislature, requiring that all laws to be binding upon them shall, upon their face, express the authority by which they were enacted, and as this act comes to us without such authority appearing upon its face, it is not a law."

The case of the State v. Patterson, 98 N. C. 662, is strong in its condemnation of the practice of treating constitutional requirements as directory. The case of Powell v. Jackson, 51 Mich. 130, is not in point, as the bill was duly and seasonably amended, if we may accept the statement of the briefs of the counsel and the syllabus.

The trend of the weight of the authority is in our opinion against the relator's contention.

It is urged with some plausibility that the insertion of this provision previous to the signature by the Governor is a sufficient compliance with the constitution, from which we understand the claim to be made that although the enacting clause was wanting when the bill came to the Governor it might have been supplied by him. But it is thought that this proposition is tenable only upon the assumption that the constitutional provison is directory merely. The Governor has no power to make laws. The legislative power is in no part vested in him, being by Sec. 1, Article IV, of the constitution, vested in the senate and house of representatives. It is not the design of the constitution that he should legislate. His office is a check upon the legislature and he may compel a reconsideration of a bill by seasonably returning it to the appropriate house with his objections to it, and when the legislature has adjourned his neglect to sign it prevents it from becoming a law, but he has not the slightest power in framing the law. Indeed, it is a fundamental principle in American consitutions that the executive shall not make laws. The following language from the opinion in the case of State of Nevada v. Rogers, 10 Neb. 250, is apropos to this subject:

> "Without the concurrence of the senate the people have no power to enact any law. Every person at all familiar with the practice of legislative bodies is aware that one of the most common methods adopted to kill a bill and prevent its becoming a law, is for a member to move to strike out the enacting clause. If such motion is carried the bill is lost. Can it be seriously contended that such a bill, with its head cut off, could thereafter by any legislative action become a law? Certainly not. The certificates of the proper officers of the senate and assembly, that such an act was passed in their respective houses, do not, and could not impart vitality to any act which, upon its face, failed to express the authority by which it was enacted."

This being so, the only justification for the insertion of the enacting clause by the Governor is to be found in the assumption that it is a clerical omisson of an unimportant matter and it might as well be held that one of the houses, or a clerk, or even the printer of the laws, might make the correction, as that the Governor might do it.

Some of the states have sustained laws without enacting clauses, but we do not know of one that has made their validity depend upon the unauthorized action of some officer or person. They have preferred to rest their action upon the well recognized distinction between mandatory and directory provisions. If the provision is mandatory that the law shall have a prescribed style and the making of laws is confined to the legislative branch of the government, it cannot be consistently held that omissions of essential parts of a law may be supplied and corrections made by persons without authority; and the public necessities should be much greater than in the present case, before such a proposition should be seriously considered. If on the other hand there is warrant for treating the provision as directory, a much less dangerous precedent is established. But as has been shown, the weight of authority forbids it, and in our opinion it will be an unfortunate day for constitutional rights when courts begin the insidious process of undermining constitutions by holding unambiguous provisions and limitations to be directory merely, to be disregarded at pleasure. In the present case it will be much better that the legislature shall correct its mistake, than that the courts shall sanction the irregular correction.

We are therefore constrained to hold that the law under discussion is void, and in the certiorari case the order is affirmed, in that of Dettenthaler the conviction is reversed and no new trial ordered. The other justices concurred.

GROSVENOR v. DUFFY.

(Opinion filed September 18, 1899.)

Pure Food Law—Sale of Oleomargarine Colored to Imitate Butter—Constitutionality of Act.

The sale of oleomargarine colored with a harmless substance to imitate June butter, but which is sold and purchased as oleomargarine, is not in violation of section 3 of Act 118 of the Public Acts of 1897, being an act to prohibit and prevent adulteration, fraud and deception in the manufacture and sale of articles of food and drink.

Certiorari to review the action of the Washtenaw circuit judge in refusing the application of Elliot O. Grosvenor, Dairy and Food Commissioner, for mandamus to compel John L. Duffy, justice of the peace, to issue a warrant. Affirmed.

Smedley & Corwin, for relator.

John J. Speed and J. P. Lee, for respondent.

The relator presented to a justice of the peace a complaint in writing, charging that "Casper Rinsey did unlawfully offer and expose for sale, and did unlawfully sell and deliver to said Elliot O. Grosvenor, a large quantity, to-wit, one pound of oleomargarine, which was then and there an article of food intended to be eaten by man, and which was then and there adulaterated within the meaning of act No. 193 of the Public Acts of Michigan for the year 1895, as amended by act No. 118 of the Public Acts of Michigan for the year 1897, in this, to-wit: That said oleomargarine was then and there an imitation of another article of food, to-wit: an imitation of a rich June butter; and said oleomargarine had been and was then and there colored, whereby inferiority was concealed, and by which means it was made to appear better and of greater value than it really was, to-wit, in this: That it was thereby made to appear like butter of a grade which was then and there of a greater value than the said oleomargarine; that the said oleomargarine was labeled 'oleomargarine' and stamped with the seller's name; and that the tub and wrapper which contained the same bore the name and address of the manufacturer and was distinctly labeled 'oleomargarine.'"

"Said complainant on his oath aforesaid, further says, that he called for oleomargarine, and that the said oleomargarine was sold to him as oleomargarine the same as to an ordinary customer, freely and without objection, and that for this reason he did not take the steps required by section 6, of act No. 154 of the Public Acts of Michigan for the year 1897."

The justice refused to entertain the complaint and issue a warrant, whereupon the relator applied to the circuit court for Washtenaw county for the writ of mandamus to compel the justice to issue a warrant and proceed to hear the case. The circuit court refused the writ and the case is brought to this court by certiorari for review.

Grant, C. J. (after stating the facts): The title of the act reads "An act to prohibit and prevent adulteration. fraud and deception in the manufacture and sale of articles of food and drink." Sec. 3, as amended by act No. 118, Public Acts 1897, so far as it applies to this case, reads:

"An article shall be deemed to be adulterated within the meaning of this act: * * *

"Fourth—If it is an imitation of, or sold under the name of another article. * * *

"Sixth—If it is colored, coated, polished or powdered, whereby damage, or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is.

"Seventh—If it contains any added substance or ingredient which is poisonous or injurious to health: *Provided,* That nothing in this act shall prevent the coloring of pure butter: *And provided further,* That the provisions of this act shall not apply to mixtures or compounds recognized as ordinary articles or ingredients of articles of food, if each and every package sold or offered for sale, bear the name and address of the manufacturer and be distinctly labeled under its own distinctive name, and in a manner so as to plainly and correctly show that it is a mixture or compound, and is not in violation with definition fourth and seventh of this section."

It is not claimed that the sale made by Rinsey violates subdvision seven. The act charged in the complaint is neither adulteration, fraud nor deception under any definition of these words to be found in any dictionary. Adulteration is "the act of corrupting or debasing, the act of mixing something impure or spurious with something pure or genuine, or an inferior article with a superior one of the same kind."

Bouv., L. D., 126.
Century Dictionary.

Counsel do not urge that it comes within the word "fraud" or "deceit." Neither is it urged that the article is made to appear of greater value than it really is. It is not claimed that the coloring matter used is in the least deleterious. The law permits its use to color butter. Counsel rely upon People v. Snowberger, 113 Mich. 86. That case is not in point. The gravamen of the offense there was that the article of food was damaged, inferior, its inferiority concealed, and it was made to appear of greater value than it really was.

This brings us to the only question we need to determine, viz.: Is the title to the act broad enough to include the sale complained of? Would any person reading the title to the bill in the legislative journals, or elsewhere, suppose that the bill would make criminal an act which in itself was entirely harmless, honest, innocent and contained no element of wrong-doing? Or that it would change the well known definition of a word so as to include within it things which were in no sense akin to it and which could only be included in it by the most arbitrary legislative enactments? Would a manufacturer of, or dealer in butter or oleomargarine, be notified by the title that the harmless coloring of either was not only to be prohibited but to be punished by fine or imprisonment or both? There can be but one answer to these questions. When the legislature attempts to change definitions and to make acts criminal which *per se* are innocent and contain no element of wrong, there must be something in the title to show such purpose or object under Sec. 20, Art, 4 of the constitution. The title contains not even an intimation that an entirely innocent act is to be made a crime. It follows that this part of the act is void.

Bissel v. Wayne Probate Judge, 58 Mich., 237.
Northwestern M'fg Co. v. Wayne Circuit Judge, Id., 381.
McKellar v. Detroit, 57 Mich., 158.

This statute is assailed as unconstitutional upon other grounds. This disposal of the case renders it unnecessary to discuss them. How far the legislature may go, under the police power inherent in the State in prohibiting and punishing acts which in themselves are perfectly harmless. would be an interesting subject of inquiry, but it is not necessary to a disposal of the case we decline to enter upon it.

Judgment affirmed. The other justices concurred.

PEOPLE v. SKILLMAN.

(Opinion filed March 4, 1902.)

Pure Food Law—Section 5022 C. L. Construed—Action Against Traveling Salesman.

A traveling salesman for a wholesale grocery firm, residing out of the State, took an order in this State for pure fruit jelly and forwarded the order to his employers. The order was filled with imitation fruit jelly. Information was filed against the salesman under section 5022 C. L., regulating the manufacture and sale of imitation fruit jellies. *Held*, That respondent was not guilty of violating the terms of the statute.

Error to the circuit court for Muskegon County. Fred J. Russell, judge.

Appeal of John Skillman from a conviction under the pure food law. New trial ordered.

Chas. B. Cross, Prosecuting Attorney, for the people.

Elliot O. Grosvenor and Smedley & Corwin, for respondent.

Moore, J.: An information was filed against the respondent which, omitting the formal parts, reads as follows: "That one John Skillman heretofore, to-wit: on the sixteenth day of September, A. D. 1901, at the city of Muskegon, in the county of Muskegon aforesaid, did unlawfully offer for sale and did sell to Albert Towle a large quantity, to-wit: a certain compound under the name of Quince Jelly, which was then and there adulterated within the meaning of act No. 193 of the Public Acts of the State of Michigan of the year 1895, as amended by act No. 118 of the Public Acts of the State of Michigan of the year 1897, as amended by act No. 117 of the Public Acts of the State of Michigan of the year 1899, in this, to-wit: That said compound was then and there made and composed in part of glucose, starch and other substances, and was then and there colored in imitation of fruit jelly contrary to the form of the statute."

After the testimony was all in a motion was made asking the judge, for various reasons, to direct a verdict in favor of respondent. This motion was overruled. The case was submitted to the jury, which returned a verdict of guilty.

A great many errors are assigned. We think some of them which we shall discuss are well taken, but as the case if ever tried again will not present the same questions now presented by counsel we deem it unnecessary to pass upon all the questions argued by them in the briefs.

To sustain the case of the people testimony in substance as follows was introduced: It was shown the respondent had for some years been a traveling salesman in the employ of Reid, Murdock & Company of Chicago, that he solicited an order from Mr. Towle, a grocer in Muskegon, that Mr. Towle gave him an order for a case of assorted pure fruit jelly. Mr. Skillman did not have the goods with him, but reduced the order to writing in the presence of Mr. Towle at his store, and forwarded it to the house in Chicago. It is as follows:

"Reid, Murdock & Co., Chicago,
Sept. 12, 1901.

Name: Albert Towle.
Town: Muskegon.
State: Michigan.
Ship by Barry Line.
Salesman, 'Skillman.

1 c P. F. Jelly Med. Asst	100
1 c P. F. Jelly Med. Currant	100

60 days."

"1 c P. F. Jelly Med. Asst." was explained to mean one case pure fruit jelly medium size assorted glasses. Mr. Towle testified Mr. Skillman claimed it was pure fruit jelly, for which he took the order, and that was what he intended to buy. It was not shown that respondent had anything further to do with the transaction than as above stated. Later a case of goods was received from Reid, Murdock & Company and testimony was given tending to show that a tumbler of this jelly was sold to Mr. Bennett, inspector of the Dairy and Food Department of Michigan, and by him forwarded to the State Analyst, where it is claimed upon analysis it was shown to be a mixture of fruit juice, glucose, starch and coloring matter. Upon the cross examination of Mr. Towle the following occurred:

"Q. Did you give Mr. Skillman more than one order for fruit jelly about this time? A. Well, he had two or three orders, I think, two at least.

"Q. Two orders? A. One of them might have been ordered by mail.

"Q. Now, you received two consignments of fruit jelly from the orders you had given to Mr. Skillman? A. I think so, yes, sir.

"Q. Upon which one of these orders did you receive this particular tumbler of jelly that you afterwards sold to Mr. Bennett? A. I couldn't say. The one that he bought was out of that order I think. (Witness pointing to order exhibited.)"

The defense claimed that the label "pure fruit jelly" placed upon the tumbler analyzed was put there by mistake. It was their claim that Reid, Murdock & Company dealt in two kinds of jelly, those made out of pure fruit and those made in imitation of pure fruit, and that when the imitation was sold in Michigan and certain other states their instructions were to label them "imitation," and that these instructions were furnished in writing to their agents, including the respondent. and they offered testimony tending to prove this claim. The written instructions were also offered in evidence, but with the testimony offered were excluded by the court.

Among other requests offered by the respondent was the following: "Under the undisputed evidence in this case there is nothing to show that the respondent offered to sell any jelly in violation of any statute of this state, but, on the contrary, it is shown that respondent offered to sell strictly pure fruit jelly and sent such an order to Reid, Murdock & Company of Chicago, Illinois, and the charge in the information for selling and offering to sell adulterated jelly is not sustained by the evidence, and your verdict should be not guilty."

The judge refused to give this request, but charged the jury, "It is recognized by the legislators and is a matter of common knowledge that many of the wholesalers that are doing business in Michigan are not residents of this State, so the legislature saw fit to make a law where a man solicited the sale of pure jellies, took an order for the sale of pure jellies, and in response to that order and offer, a different class of goods was furnished, that the party should be guilty of violating this particular law. In other words, instead of that order or offer and the furnishing of goods delivered to the party by a party who might be a non-resident of the State. that it should relate to the man who actually made the offer, the man who actually took the order for the furnishing of this particular article. The people claim that this is the matter in which this defendant here is liable."

This statement of the law is sought to be justified by People v. Snowberger, 113 Mich. 86, and People v. Grocer Co., 118 Mich. 604, 71 N. W. 497, 67 Am. St. Rep. 449, 77 N. W. 315. A reference to these cases will show that the respondent in each of them admitted making the sale of the goods. In this case the respondent denies that he sold any goods coming within the provisions of the statute. Giving the only interpretation to the testimony as it appears in the record which can be fairly given to it shows Mr. Towle was solicited to give an order for pure fruit jelly. He gave such an order. It was reduced to writing and in the writing the jelly was described as pure fruit jelly. As before stated the only connection of the respondent with the transaction as shown by the record is the taking of an order for an article not within the terms of the statute and forwarding it. This does not constitute an offense. It might as well be urged that if a traveling salesman takes an order for Michigan beet sugar and forwards a written order for such sugar, and if the house, instead of filling the order as written, sends glucose with a label upon the package containing it calling it Michigan beet sugar the salesman would be guilty of an offense. This we do not understand to be the law. Upon the case as made the circuit judge should have directed a verdict of not guilty. Peeople v. Howard, 50 Mich. 242, 15 N. W. 101.

The verdict is set aside and a new trial ordered.

Long, J., did not sit. The other justices concurred.

THE PEOPLE v. MORSE.

(Opinion filed June 3, 1902.)

Pure Food Law—Sales by Agents—Criminal Responsibility for Acts of Principal.

1. A traveling salesman who in good faith takes an order for "pure pepper," which is filled by his principal with impure pepper, is not guilty of a violation of Public Acts 1895, No. 193, forbidding the sale of impure foods.

2. Public Acts 1895, No. 193 (Pure Food Laws) Sec. 17, providing that the taking of an order for future delivery of any of the articles covered by the "act shall be deemed a sale, within the meaning of the act," does not make an agent absolutely responsible for the acts of his principal in filling the orders taken by such agent, and an order by the agent which is filled by the principal as an entirety may be, under the act, a sale of impure food as to the principal, and yet not such as to the agent.

Error to circuit court, Muskegon county; Fred J. Russell, Judge.

John W. Morse was convicted of a violation of the pure food law, and he brings error. Reversed.

Underwood & Umlor, for appellant.

Chas. B. Cross, Prosecuting Attorney, and George S. Lovelace, Assistant Prosecuting Attorney for the People.

Hooker, J.: The brief filed on behalf of the people states that the case is similar to that of The People v. Skillman, 8 Detroit Legal News, 1090, 89 N. W. 330, and in effect concedes that the case must be reversed if we adhere to our former decision.

The defendant took an order for some pepper, as and for pure pepper, to be shipped to a dealer in Muskegon, by defendant's principal, a wholesaler in Chicago. The pepper when sent was not pure.

It is insisted that the Skillman case is at variance with the weight of authority elsewhere, and contrary to our own cases, in which it is said that we have held that a guilty intent on the part of a vendor, is not essential to an offense, under the pure food law (Public Acts 1895, No. 193). It is further said that in the decision in the Skillman case, section seventeen of the act must have been overlooked or considered unconstitutional.

The transaction in which the order was taken did not involve an immediate delivery of pepper, then and there present. It is not shown that the sample, if there was one, was the same as the pepper subsequently sent, or that it was in the least impure. If it be conceded that the agent acted in good faith, and we understand that it is not questioned, he took an order for pure goods, and in doing that certainly committed no offense. It is now urged that the exigencies of the enforcement of this law are such, that we should hold that this innocent and lawful action, may be made a crime by the subsequent act of the principal, either intentional or inadvertent, in departing from, instead of performing the contract which his agent had innocently made. We think this is not so, and we are also of the opinion that this does not necessarily do violence to section seventeen. This transaction, as an entirety, may have been a sale of impure pepper under the statute as to the principal, and not as to the agent. If the order had been taken, with knowledge on the part of the agent of a practice to send impure pepper on such orders, a different question would be presented.

The judgment is reversed and a new trial ordered.

Long, J., did not sit. The other justices concurred.

PEOPLE v. ROTTER.

(Opinion filed June 24, 1902.)

Food—Oleomargarine Act—Constitutional Law—Statutes—Title—Object.

1. Public Acts 1901, No. 22, entitled "An act to prevent deception in the manufacture and sale of imitation butter," which, in addition to forbidding sale of imitation butter, prohibits sales of colored oleomargarine, is not, on that account, open to the objection that the object is not expressed in the title, as required by Const. art. 4, Sec. 20.
2. The act is not in contravention of the fourteenth amendment of the federal constitution.
3. The act is a valid exercise of the police power.

Error to circuit court, Emmet county; Frank Shepherd, judge.

George W. Rotter was convicted of selling colored oleomargarine, and brings error. Affirmed.

Smedley & Corwin, Sears, Meagher & Whitney (James F. Meagher and Kay Wood, of counsel), for appellant.

Horace M. Oren, Attorney General, and Matthew F. Guinon, Prosecuting Attorney for the People.

Hooker, C. J.: At its last session, the legislature passed an act under the title, "An act to prevent deception in the manufacture and sale of imitation butter." Public Acts 1901, No. 22.

Section 1 of said act provides that:

> "No person, by himself or his agents or servants, shall render or manufacture, sell, offer for sale, expose for sale, or have in his possession with intent to sell, any article, product or compound made wholly or in part out of any fat, oil or oleaginous substance or compound thereof, not produced from unadulterated milk or cream from the same, which shall be in imitation of yellow butter produced from pure unadulterated milk or cream of the same: Provided, That nothing in this act shall be construed to prohibit the manufacture or sale of oleomargarine in a separate and distinct form, and in such manner as will advise the consumer of its real character, free from coloration or ingredient that causes it to look like butter."

Section 2 prescribes a penalty for the violation of the act.

The defendant was a grocer in Emmet county, and is shown to have sold a package of oleomargarine, which by an analysis was proven to have contained artificial coloring matter, and that said oleomargarine was not made wholly from unadulterated milk or cream from the same, and that it was made in imitation of yellow butter, produced from unadulterated milk or cream from the same. The court was asked to direct a verdict of not guilty upon the grounds:

1st. That the object of the act was not expressed in the title, as required by section 20 of article 4 of the constitution of this State;

2d. That the act violates the fourteenth amendment of the constitution of the United States, and article 6, section 32, of the constitution of this State;

3d. That it was not within the police power of the State.

The evidence conclusively shows that no deception was used in selling the oleomargarine, and there is nothing to indicate that there was any harmful ingredient therein, but that, on the contrary there was not such ingredient. The defendant was convicted, and the case is here on exceptions before sentence.

It is contended that the title to the act indicates that the act was designed to prevent deception in the manufacture and sale of imitation butter, while the act attempts to go further and prevent all sales of such colored oleomargarine.

If oleomargarine colored yellow, closely resembles yellow butter, made from milk or cream, it can not reasonably be said not to resemble or imitate yellow butter. Butter is a well known commodity. From time immemorial it has had but one origin, viz.: from the churning of milk or cream. Whatever may be said of the possibility of making a product from other compounds than milk or cream that shall closely resemble or be chemically identical with butter, the world has but one understanding of what is meant by the word "butter," and we must assume that such is the sense in which our legislature used the term. Compiled Laws, Sec. 50. Sub. 1.

A fair inference from this statute is that the legislature undertook to prevent deception, by preventing the sale of any yellow oleomargarine, and it undertook to accomplish this by the most effective means, viz.: by prohibiting the coloring of oleomargarine yellow, thereby avoiding the embarrassment which would otherwise arise from the necessity of proving in each case, that deceit was used in selling it, as and for butter. We think this is fairly within the title, whatever must be said of the other points raised. We are referred to the case of N. W. Mfg. Co. v. Chambers, 58 Mich. 381, 25 N. W. 372, 55 Am. Rep. 693, as conclusive upon this question, in which case it is said that "all that could be done under such a title would be to prohibit and prevent sale of such articles under false pretenses." We are of the opinion that this language is too restrictive, and that it is at variance with the settled doctrine in this State, that any provision, naturally calculated to accomplish the object expressed in the title may be included in the act.

See:

Soukup v. Van Dyke, 109 Mich., 681.
People v. Worden Grocer Co., 118 Mich., 607.

The case cited was rightly disposed of upon another ground, and it is possible that the language above quoted should be considered a dictum. Moreover the cases are distinguishable for whereas, that act attempted to prevent all sales of imitation butter, and was therefore perhaps inconsistent with the title, which apparently contemplated lawful sales, the statute under consideration in the present case, does not prohibit sales of oleomargarine, which is not tainted with the prohibited ingredients.

It is unnecessary to discuss the other points at length for the reason that the uniform trend of judicial opinion is that such laws are valid.

State v. Meyers, 42 W. Va. 825; 35 L. R. A. 844.
New Hampshire v. Marshall, 1 L. R. A. 51.
Powell v. Penna., 127 U. S. 678.
People v. Armsberg, 105 N. Y. 113.
Butler v. Chambers, 36 Minn. 69.
People v. Worden Grocer Co., 118 Mich. 604.
People v. Armsberg, 105 N. Y. 123.

State v. Crescent Creamery Co., 86 N. W. 107.
State v. Ball, 46 Atl. Rep. 50.
Commonwealth v. Van Dyke, 13 Pa. Sup. Ct. Rep. 484.
Commonwealth v. McCann, 14 Pa. Sup. Ct. Rep. 221.
Armour Packing Co. v. Snyder, 84 Fed. Rep. 136.
Cap. City Dairy Co. v. State, 22 Sup. Ct. Rep. 120.
Wright v. State, 41 Atl. Rep. 795.

We are of the opinion that the legislature had the power to pass this law, and its wisdom of policy is not for our consideration.

The judgment is affirmed and the court directed to sentence the defendant.

Long, J., did not sit. The other justices concurred.

PEOPLE v. PHILLIPS.

(Opinion filed September 17, 1902.)

Food—Adulteration—Statutes—Oleomargarine—Yellow Butter.

1. The phrase "yellow butter," is used in Act No. 22, Acts 1901, making it an offense to sell or offer for sale oleomargarine colored in imitation of "yellow butter" made from pure milk or cream, of the same, means any butter produced from pure milk or cream thereof having a "perceptible shade" of yellow.

Error to circuit court, Kalamazoo county; John W. Adams, Judge.

John W. Phillips was convicted of selling oleomargarine, in violation of act No. 22, Public Acts 1901, and he brings error. Affirmed.

Frank E. Knappen and E. M. Irish, for appellant.

Sheridan F. Masters, Prosecuting Attorney, and Dallas Boudeman, for the People.

Moore, J. The respondent was convicted of having on hand with intent to sell, and offering for sale oleomargarine, colored in imitation of yellow butter, contrary to the provisions of Act. No. 22 of the legislature, passed at the session of 1901.

It is claimed by respondent this law is unconstitutional and is an invalid law. That question was decided in the very recent case of People v. Rotter, against the contention of respondent, and need not be discussed here. It is urged as a matter of defense, and we quote from the brief of counsel, "that the statute is only aimed against the imitation of a substance which the Legislature recognizes as yellow butter, and

1. The court should take judicial notice that all butter with a trace of yellow in it is not the yellow butter of commerce.

2. That if this is not true as a proposition of judicial notice, and the court cannot know it, then the respondent should have been allowed to prove, if he could that there was such a usage of commerce.

3. That the statute is vague and indefinite in not defining the elements of the statutory crime it attempts to carve out of an act innocent *per se,* in that it gives no standard for determining what the color of yellow butter is that is not to be imitated."

The trial judge charged the jury upon that branch of the case as follows:

> "It is not necessary in this case for the people to have proved that the respondent himself colored the oleomargarine if you find beyond a reasonable doubt that it was colored. The offense is just as complete, so far as this is concerned, if the respondent purchased oleomargarine colored, as above indicated. The offense as above stated consists of having the oleomargarine colored as before indicated, in his possession, with intent to sell the same, or in exposing it for sale; and if the respondent sold it in the same condition as he bought it, there would be no defense in this case. The respondent, gentlemen of the jury, is not charged in this information with selling this article; and if you find beyond a reasonable doubt he sold it as claimed by the people in the testimony offered, you may consider this fact on the question of whether respondent had or did not have the article in his possession for the purpose of selling it. And you must not consider it for any other purpose. If you find beyond a reasonable doubt that respondent did sell the article mentioned in the information to the parties claimed by the people, that would satisfy the statute upon the question of intent to sell. It is not necessary in this case to entitle the people to a conviction, that the oleomargarine should have been colored to represent any particular kind of yellow butter. That is, such yellow butter as the statute mentions, and as I have indicated to you the statute mentions. If the coloring was put into it, and by using such coloring, the oleomargarine was in imitation of light yellow butter, such as the statute mentions, that is, yellow butter produced from pure, unadulterated milk or cream from the same, the offense is committed just the same as if it had been colored to represent darker yellow butter. If you find it to have been oleomargarine and was colored in such a manner as to be in imitation of any kind of yellow butter, that would satisfy the statute upon the requirement of the question of color. Yellow butter I define to be any butter produced from pure, unadulterated milk or cream of the same having a yellow color.
>
> "It is necessary in order for the jury to convict the respondent, for you to find beyond all reasonable doubt that the article in the package sold was colored in imitation of yellow butter produced from pure unadulterated milk or cream of the same. If you find beyond a reasonable doubt under the testimony in this case that there was some coloring matter in this article, still if you find that there was not enough coloring matter in this article to cause it to look like yellow butter having a perceptible shade of yellow, said butter having been produced from unadulterated milk or cream from the same, then you must acquit. But if you find beyond a reasonable doubt there was coloring matter in said article and sufficient coloring matter in said article, and sufficient coloring matter therein to make it look like yellow butter, having any perceptible shade of yellow, said butter having been made from unadulterated milk or cream from the same, that would be sufficient so far as the requirement of the statute upon the question of coloration is concerned."

We think this was a proper construction of the language used in the statute.

The conviction is affirmed and the case remanded for further proceedings.

Long, J., did not sit. The other justices concurred.

PEOPLE v. JENNINGS.

(Opinion filed April 7, 1903.)

Adulteration of Food—Omission of Ingredients—Coloring Matter—Remarks of Court.

1. There not having been incorporated in the pure food law of 1895 (Public Acts 1895, p. 358, No. 193), any specific formula for the manufacture of lemon extract, it is proper to resort to the United States Pharmacopoeia formula to determine of what lemon extract consists.

2. The pure food law of 1895 (Public Acts 1895, p. 358, No. 193), is not intended to prevent manufacturers of articles of food from improving the same, so long as no infringement of the law or spirit of the act defining adulteration takes place.
3. The provisions of Comp. Laws, Sec. 5012, that an article shall be deemed adulterated, "second, if any inferior or cheaper substance or substances have been substituted wholly or in part for it; third, if any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it"—should be read together, and the provision first recited construed as prohibiting the substitution for an essential ingredient of any cheaper or inferior substances.
4. Comp. Laws, Sec. 5012, declaring that an article shall be deemed adulterated, "Sixth, if it is colored * * * whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is," does not preclude the use of coloring matter not injurious to health in any way.
5. It is improper for the court to refer to expert testimony as "boughten testimony."

Exceptions from Circuit Court, Muskegon County; Fred J. Russell, Judge.

Charles W. Jennings was convicted of violating the pure food law, and brings exceptions. Reversed.

Charles A. Blair, Attorney General, and Charles B. Cross, Prosecuting Attorney. (Cross, Lovelace & Ross, of counsel), for the People.

Knappen, Kleinhans & Knappen and L. N. Keating, for defendant.

Montgomery, J. This is a prosecution under the Pure Food Law, so called. The defendant was convicted under an information charging him with selling a compound as a lemon extract which was adulterated within the meaning of Act. No. 193, P. A. 1895, and was a compound in imitation of extract of lemon. The respondent was convicted and brings the case up on exceptions before sentence.

The evidence on the trial introduced by the defendant tended to show that lemon oil contains from three to ten per cent citral, so-called, and upwards of ninety per cent of so-called turpenes; that these turpenes represent the oil property; that they are in reality the oil itself freed from the citral; that citral is the principal flavoring and odor-bearing property of lemon oil; that the tendency of turpenes in the oil of lemon is to deteriorate or become rancid by long standing, and that because of this the extract or spirits of lemon in which turpenes appear in usual quantities becomes turpentiney, both in smell and taste, and that for this reason it is undesirable to have turpenes present; that the turpenes have a biting taste, easily developing a turpentine taste, not the true flavor of the lemon fruit. There was also testimony tending to show that this fact created a demand for turpenless oils and that turpenless lemon oils had been manufactured and sold commercially for a considerable time.

On the part of the prosecution the testimony of the chemist of the Pure Food Department was to the effect that taking as a standard of extract of lemon the spirits of lemon as defined by the United States Pharmacopoeia formula that the extract produced by the respondent showed no lemon oil present. It further appears that spirits of lemon made according to the pharmacopoeia formula would contain from 25-100 to 35-100 of one per cent of citral. It also appeared that 30 per cent of alcohol appeared in the product made by respondent, and that according to the pharmacopoeia formula 80 per cent was used, and that it cost less to make the extract using but 30 per cent of alcohol than if 80 per cent was used. It was also shown that a trace of coal tar dye was found in the extract made by respondent, but it was conceded that there was nothing whatever injurious in the extract as prepared by Mr. Jennings. The extract sold by respondent was made by what is known as the shaking out process, the purpose being to make an extract that contains no oil and as little alcohol as possible, a product that simply contains the flavoring properties of the lemon oil without the turpenes. This system has been employed by Mr. Jennings and by other manufacturers for the past three years; and it is claimed that all the elements and properties of lemon oil remained except the turpenes, and the testimony tended to show that the complete flavoring qualities are extracted by this process.

The circuit judge charged the jury as follows:

"In 1895 the Legislature of this State thought it wise to pass a law relative to the adulterations of food and food products. Perhaps there may have been some amendments since that time, but that was the foundation of the law. That law covers lemon extract as it covers all other products that are sold on the market. It seems at the time the law was passed and since that time there hasn't been—there isn't incorporated within that law any specific formula for the manufacture of lemon extract. Now, we can hardly say, gentlemen of the jury, that at the time of the passage of that law that the legislature didn't have some recognized and defined standard by which these essences or extracts should be governed or controlled. I think it would be hardly fair to the legislature to claim that there wasn't a standard they had in their mind at that time, and for the purposes of this case I will instruct you, gentlemen, that at that time and at this time this standard that appears here in the United States Pharmacopoeia is the standard recognized by the legislators of this State and the one to which—the one that is in force so far as it applies to the Pure Food Law of this State with reference to that particular product. And if this lemon extract is manufactured in conflict with that formula as I shall hereafter call your attention to it, and you should find from the evidence, why it would be your duty to convict the defendant here.

"By that formula it appears that it is necessary to have five per cent of lemon oil in the lemon extract and that lemon oil shall be cut by a sufficient quantity of alcohol to perform that act. Of course, you know that that means in common parlance it should dissolve the oil. In addition to that, as the evidence tends to show in this case, after those things are put together, the fluid, whatever it might be, would be nearly the color of water. As coloring there may be or should be five per cent of lemon rind, and those ingredients when added together would be lemon extract, and that, gentlemen, will be the standard as applied to the Pure Food Law of this State. Now, gentlemen, I don't mean by that statement that lemon extract cannot be manufactured by any other process except by that to which I have called your attention. I don't mean that. It is the claim of the defendant here that he has discovered a process by which he can manufacture lemon extract containing all of the qualities that lemon extract manufactured according to that formula would possess and not have entirely all of the ingredients in the first instance that are provided in the formula. And as I view this case, gentlemen, that is one of the important propositions in connection with this case—that, and the questions of coloring—in the judgment of the court is the case, and that all of the testimony in the case here revolves itself about those two propositions.

"It is the claim of the defendant, as I say, he has discovered a process by which he can produce in this lemon extract all the qualities that would be produced by adding alcohol and lemon oil together, and that manufacturing it by that means he produces it chemically by taking a larger quantity of lemon oil and extracting certain parts of it. Now, gentlemen, if you find and are satisfied by the evidence in this case that after this lemon extract was manufactured as defendant here claims he did manufacture it possesses all the qualities in strength and otherwise that it would possess if manufactured according to this formula, he is not guilty under this law. That is, he is not guilty of manufacturing an impure article, unless there are certain other articles that enter into the case to which I call your attention. As I say, in the first instance, it is claimed that according to the formula it should be alcohol and five per cent of lemon oil. Now if by some other process he can manufacture from the lemon oil and alcohol a product that would contain all of the elements that these two elements would contain if so mixed, he would not be guilty so far that would be lemon extract except the color of it.

"It is conceded here by all parties in interest, I think, that the only object of the lemon peel is to produce coloring. But there is another element to which the prosecuting attorney has called our attention. The evidence tends to show, gentlemen, that if this product is produced as claimed here on the part of the defendant, that after production by his process that the product would be nearly white. As I say, if it contained all of the elements of lemon extract, I don't think he would be guilty under this law, and if you are so satisfied, of course, at that point it would be your duty to find a verdict of not guilty unless there is some other matter in which he has violated this law.

"There is another provision of this Pure Food Law that provides that ingredients shall not be colored. In this case it appears that after this fluid substance is produced which he claims is just the same as produced under this formula, that he desires to change it to a lemon color. In other words, he puts in an ingredient which he claims would produce the same effect as this lemon rind. What is the object, gentlemen, or what was the object of Mr. Jennings adding this color? If the object was by any means to make it appear better or of greater value than it really is; if that was the object in adding that product of course it is your duty without any question to find this defendant guilty, because he hadn't any right to add that kind of a product or any other kind of a product to this fluid which he had produced and sell it for lemon extract, because that is a direct violation of one of the provisions of this Pure Food Law."

We think this charge presents fairly three questions for consideration: First, whether the pharmacopoeia formula is to be considered as defining lemon extract; second, if so, whether an omission of ingredients not essential to its purposes as a food product is a violation of the statute; third, whether the instruction relative to the addition of coloring matter should be sustained.

The statute defining what shall be deemed adulteration, so far as it relates to this case, declares that an article shall be deemed adulterated when: "First, if any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity; second, if any inferior or cheaper substance or substances have been substituted wholly or in part for it; third, if any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it; fourth, if it is an imitation of, or is sold under the name of another article; * * * sixth, if it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is; seventh, if it contains any added substance or ingredient which is poisonous or injurious to health." Compiled Laws, Sec. 5012.

We are agreed with the circuit judge that in referring to articles of food and to protect the users thereof the legislature must have had in view some standard, and as lemon essence or lemon extract had therefore acquired a well-defined meaning we incline to the view that it is proper to resort to the pharmacopoeia formula for the purpose of determining what lemon extract consists of. Does it follow from this that the legislature intended to prohibit improvement in the manufacture of lemon extract? If a means should be discovered by which a larger percentage of the flavoring quantity of the lemon might be extracted would it be an infraction of this law that the manufacturer should use such larger proportion of the essential ingredient of the lemon extract? We think not. We think it is open to manufacturers to improve a common article of food so long as no infringement of the law or spirit of the act defining what shall be deemed adulteration takes place. According to the proofs offered by the defendant it is very clear in the present case no substance or substances have been mixed with this extract so as to lower or depreciate or injuriously affect its quality, strength or purity.

As to the second condition which amounts to adulteration the case is not so clear. This provides that if any inferior or cheaper substance or substances have been substituted wholly or in part for it, that it shall amount to adulteration. We think, however, this provision should be read in connection with the succeeding one, to-wit: "If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it." So construed the provision prohibiting the substitution of any inferior or cheaper substance, wholly or in part, for it means the substitution for an essential ingredient of such cheaper or inferior substance. Now if it be a fact, as the testimony on the part of the respondent tends to show, that it is a positive advantage to exclude the turpene wholly from the extract and to lessen the quantity of alcohol used, then the essential ingredients of lemon extract have not had substituted for them anything inferior or cheaper. We are aware that this view of the law may make it more difficult to establish the individual case, but as the statute is a penal statute it should receive a strict construction.

It follows from the views above expressed that the instruction of the learned circuit judge was erroneous inasmuch as the jury were told in effect that if *any* ingredient of lemon essence as defined by the pharmacopoeia was wanting in this extract sold by the respondent that there should be a conviction. We think the instruction should have been that if the lemon extract sold by respondent contained all the ingredients and in quantities such as prescribed by the pharmacopoeia which are adapted to use as food, and that nothing was eliminated except such ingredients as could be dispensed with without injury to the product as a food product there was no violation of the statute.

The only other provision of the statute involved is the sixth, which in effect prohibits coloring the article produced whereby damage or inferiority is concealed. The instruction upon this branch of the law was also erroneous if we are correct in our view of the main question. The eliminaton of non-essential ingredients from the extract certainly does not show damage or inferiority, and as the conceded facts are that the coloring matter employed was not injurious to health in any way this provision has no application.

The other questions discussed do not require special mention. It may be noted in passing that the circuit judge in referring to the testimony of expert witnesses spoke of it as boughten testimony. We think this expression was unfortunate. While it is proper for the jury to take into account the fact that expert witnesses are employed at an extra compensation paid them, the implication that the extra compensation necessarily amounts to a purchase of their testimony is hardly warranted; while the jury may consider this fact as bearing on their credibility, it is not proper that the court should intimate an opinion of that character.

The judgment should be reversed, and a new trial ordered.

The other justices concurred.

BENNETT v. CARR.

(Opinion filed July 14, 1903.)

(Detroit Legal News.)

Pure Food Law, Act 22, P. A., 1901, Construed—Sale of Yellow Oleomargarine.

Act No. 22 of the Public Acts of 1901 prohibiting the sale of oleomargarine except where it is "free from coloration or ingredient that causes it to look like butter," does not prohibit the sale of oleomargarine whose color is natural, genuine, and not an imitation, and the ingredients themselves naturally produce the color.

The term "ingredient," used in Act 22, Public Acts of 1901, does not refer to the ingredients essential to produce the article as defined by the legislature, but to an ingredient used to *produce* color.

Certiorari to the Circuit Court for Muskegon county, Fred J. Russell, Judge, to review an order denying the petition of John R. Bennett for mandamus to compel John M. Carr to issue a *warrant*. Order affirmed.

Charles A. Blair, Attorney General, and Cross, Lovelace and Ross, for relator and appellant.

Smith, Nims, Hoyt and Erwin for defendant and appellee.

Grant, J. Relator is the inspector of the State Food and Dairy Department. On the 24th day of February, 1903, he made complaint before the defendant, a justice of the peace of the county of Muskegon, charging one Martin Aamondt with having sold one pound of oleomargarine contrary to Act No. 22 of the Public Acts of 1901. The respondent refused to entertain the complaint and issue warrant, on the ground that the complaint stated no offense under the provisions of said act, and that said act is unconstitutional and void. Relator thereupon applied to the circuit court for the county of Muskegon for the *writ of mandamus* to compel the respondent to issue said warrant, and proceed with the examination. The circuit court sustained the action of the respondent, and the case is now before us for review upon *certiorari*.

The statute in question reads as follows:

"Section 1. No person, by himself or his agents, or servants, shall render or manufacture, sell, offer for sale, expose for sale, or have in his possession with intent to sell, any article, product or compound made wholly or in part out of any fat, oil, or oleaginous substance or compound thereof, not produced from unadulterated milk or cream from the same, which shall be in imitation of yellow butter produced from pure unadulterated milk or cream of the same: *Provided*, That nothing in this act shall be construed to prohibit the manufacture or sale of oleomargarine in a separate and distinct form, and in such manner as will advise the consumer of its real character, free from coloration or ingredient that causes it to look like butter." The complaint charges Mr. Aamondt with unlawfully selling one pound of oleomargarine "made wholly or in part of fat, oil or oleaginous substance or compound thereof, as follows, to wit:

Water	11.75 per cent.
Butter fat	1.34 per cent.
Beef fat, lard and cottonseed oil	79.24 per cent.
Salt and other mineral matter	4.54 per cent.
Curd	3.13 per cent.

Said article, product or compound not being then and there butter produced from unadulterated milk or cream from the same, and being then and there in imitation of yellow butter produced from unadulterated milk or cream from the same, and not being then and there oleomargarine in a separate and distinct form and in such manner as would advise the consumer of its real character, free from coloration or ingredient that would cause it to look like butter, but that the said oleomargarine was then and there of a yellow color in imitation of butter, said color not being then and there produced by the addition of any artificial coloring matter, but said color being produced solely by the said ingredients therein contained, the said ingredients hereinbefore set forth having been selected and used in the manufacture of said oleomargarine in such manner and in such quantities and proportion as to produce the oleomargarine that was then and there in imitation of yellow butter produced from unadulterated milk or cream from the same. contrary to the form of the statute," etc.

The oleomargarine so purchased was manufactured in the city of Chicago, State of Illinois, by one Moxley, a resident of said city, and was sold by said Moxley to said Aamondt in the usual course of trade, and by said Aamondt was sold in the usual course of retail trade, in the same form and condition, and in the original package, in which it was received by Aamondt from Moxley.

It is conceded that this oleomargarine has a yellow color similar to butter, but the color is not produced by any artificial coloring substance or ingredient used for the purposes of coloration, but is produced solely by the selection and use, in proper proportions, of the substantial, recognized, legal and necessary ingredients of commercial oleomargarine.

Does the complaint state an offense covered by the statute? The answer depends upon the construction to be given to the statute. The relator contends that the statute covers all products which look like yellow butter, and that it is immaterial whether such color is produced by some ingredient introduced for the purpose of causing the product to look like butter, or whether such color is produced by authorized and legal constituent food ingredients. The respondent contends that the statute is aimed only at the use of ingredients used solely for the purpose of producing the yellow color, and does not prevent the manufacture of an article whose color is natural. genuine and not an imitation. Penal statutes must be construed strictly and cannot be extended by construction beyond the intent of the act as expressed on its face. The conditions existing at the time the statute was enacted, and the mischief to be remedied, are important factors in construing penal statutes. Two acts covering the same subject must be construed as *in pari materia,* and, if possible, effect given to both. These are elementary rules of construction. At the time the statute in question was enacted the only method in use in causing oleomargarine to look like yellow butter was the introduction of some extraneous coloring matter. This was the mischief to be remedied. We clearly so understood in People v. Rotter, 9 D. L. N. 284; 91 N. W. Rep. 167, where, speaking through Chief Justice Hooker, we said of this statute: "The statute under consideration * * * does not prohibit sales of oleomargarine which is not tainted with the prohibited ingredient."

See also People v. Phillips, 9 Id. 393; 91 N. W. Rep. 616.

The legislature has defined oleomargarine which may be manufactured and sold in this State. Sec. 6, Act No. 147, Public Acts of 1899. It is conceded that the respondent has complied with this act. If we give the enlarged construction to the statute now in question, as urged by the relator, it follows that the legislature has prohibited the manufacture and sale of a valuable article of food, the natural color of which resembles yellow butter (itself almost universally colored by extraneous matter).

The manufacturer of such a product, if he sold it at all, would be compelled to introduce some coloring matter so as to make it look unlike the yellow butter of commerce. These two statutes must be construed together. The article sold by the respondent is clearly authorized by the first act. The latter act does not in terms prohibit its sale and manufacture. It does prohibit the use of any substance for the sole purpose of producing yellow color. The use of such coloring matter was the sole mischief then known to exist, and the only danger to be apprehended and guarded against.

A similar statute was passed in New Jersey, and the like contention was made to support a conviction, and the court said: "To construe the statute so broadly would render it practically prohibitive of the sale of all oleomargarine; for, of course, the compound must derive color from its ingredients, and such a prohibition has manifestly not been declared."

Ammon v. Newton, 14 At. Rep. 610; 50 N. J. 548.
McCan v. Commonwealth, 48 At. Rep. 470; 198 P. A. St. 509.

Our statute is copied verbatim from that of Massachusetts. The Supreme Court of that State, in a case just decided, has held that the statute applies only to extraneous substances or ingredients which cause the product to look like butter, and not to cases where the ingredients themselves naturally produce the color.

Commonwealth v. Himberg, ——— ———.

The Supreme Court of the United States so held in regard to the same statute.

Plumley v. Commonwealth, 155 U. S. 461.

The term "ingredient," used in the statute, does not refer to the ingredients essential to produce the article as defined by the legislature, but to an ingredient used to produce color. The maxim *noscitur a sociis* applies.

Under this disposition of the case it becomes unnecessary to discuss any constitutional question.

The order is affirmed.

The other justices concurred.

ABSTRACT OF LAWS.

The following is but a brief synopsis of the Dairy and Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulation, and dealers are advised to examine the laws carefully and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of this act is deemed a sale.

Under this statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is an imitation of or sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;
7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;

2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

Baking Powder.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

Buckwheat Flour.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled "Buckwheat Flour Compound" in letters not less than one-half inch in length, followed with the name of the maker and factory and the location of such factory. Any other label or printed matter upon the package shall not be in contravention of the above requirements.

Butter.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of, or contributed by, three or more persons must register with the department on or before April 1 of each year. Renovated butter must be labeled as such. See ruling under head of Renovated Butter.

Candy.—Must not contain terra alba, barytes, talc or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

Catsup.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

Cheese.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as, or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cream is purchased of, or contributed by, three or more persons must register with the department, on or before April 1 of each year. Authorized brands bearing the words, "Michigan Full Cream Cheese," may be obtained from the department upon payment of a fee of one dollar annually.

Coffee.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled

"Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee whether put up for immediate delivery or for stock purposes.

Coffee Substitute.—Mixtures of cereals or other articles sold as substitute for coffee, must be sold as a mixture or compound under an original or coined name and not under the name of any ingredient contained therein. All packages containing same must bear the name and address of the manufacturer or compounder thereof.

Canned Goods.—Must bear name and address of packer. If dried before canning must be labeled, "Soaked or Bleached Goods," in letters not less than two line pica in size.

Cream of Tartar.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

Extracts, Flavoring.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts of Vanilla and Tonka may be mixed and sold as "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla" or "Compound Extract of Vanila," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. It must be understood that when an extract of vanilla and tonka is labeled with both names, the type used is to be similar in style and size, and that one name is not to be given greater prominence than another. So called extracts that are not made from the fruit, berry or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., are prohibited by law.

Farinaceous Goods.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coined name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

Honey.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

Jellies, Jams, Fruit Butters, etc.—Imitation fruit jellies, jams, preserves, fruit butters or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly, Jam, Preserves or Fruit Butter," with the name and location of manufacturer, and have no other label of whatever name.

Lard.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard" or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' packages the name of the maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard" or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

Liquor.—Spirituous, fermented or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel containing the same. the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also the words, "Pure and without drugs or poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

Maple Sugar and Maple Syrup.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

Milk.—Must contain not less than three per cent fat and twelve and one-half per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill or any substance in a state of fermentation or putrefacton, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives in milk is prohibited.

Molasses.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses mixed with glucose shall be branded or labeled "Glucose Mixture" and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer. (See Syrup.)

Oleomargarine.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designated as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished a white placard containing the words "Oleomargarine

Sold or Used Here" printed in black ink in plain Roman letters not less than three inches in length nor less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must *also* deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

Oleomargarine must not contain artificial coloring matter.

Pancake Flour.—If containing more than one article must be sold as a mixture or compound under an original or coined name, and not under the name of any ingredient contained theerin. Packages containing same must bear the name and address of the manufacturer or compounder.

Pepper.—All black pepper shall contain not more than six and one-half per cent ash or mineral matter; and shall contain not less than twenty-five per cent starch as determined by the diastase method; and shall contain not less than six-tenths of one per cent nor more than one and three-fourths per cent of volatile ether extract; and shall contain not more than ten per cent nor less than six and one-half per cent of non-volatile ether extract; and shall contain not more than sixteen per cent of crude fibre.

Prepared Mustard.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard" and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer.

Renovated Butter.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Renovated Butter."

Packages put up for immediate delivery shall be covered by wrappers on which must be printed the words "Renovated Butter" in gothic letters at least three-eighths of an inch square and such wrappers shall contain no other words or printing thereon, and said words "Renovated Butter" so printed shall not be in any manner concealed.

If packed in tubs or other receptacles the words "Renovated Butter" must be printed in gothic letters at least three-eighths of an inch square on two sides of the same.

If uncovered or not in a case or package a placard containing said words in the same form as above described shall be attached to the mass in such manner as to be easily seen and read by the purchaser.

Saccharine.—The use of saccharine in all food products is prohibited.

Syrup.—Syrup mixed with glucose must be distinctly branded or labeled "Glucose Mixture" or "Corn Syrup" in plain gothic type not less than three-eighths of an inch square. It shall also have the name and percentage by weight of each ingredient contained therein plainly stamped, branded or stenciled on each package in plain gothic letters not less than one-fourth of an inch square. Every package of syrup either simple or mixed shall bear the name and address of the manufacturer. It shall have no other designation or brand that represents or is the name of any article which contains a saccharine substance and all brands or labels shall be an inseparable part of the general or distinguishing label, which shall be that principal and conspicuous sign under which it is sold.

Spices.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound. (See Pepper.)

Sweet Chocolates and Sweet Cocoas.—If containing no other substances than cocoa mass, and not to exceed 60 per cent of sugar and flavoring, will not be classed as a compound or mixture.

Vinegar.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegar must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid or ingredients injurious to health. All vinegar made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegar made wholly or in part from distilled liquor must be branded "Distilled Vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

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